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GEYA

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GEYA

ZHEJIANG GEYA ELECTRICAL CO.,LTD

INDUSTRIAL CONTROL PRODUCT

Everything for electrical safety



GEYA Electrical

COMPANY PROFILE



GEYA Electrical
Safety First

ZHEJIANG GEYA ELECTRICAL CO.,LTD

Founded in 2007,Geya Electrical Co. Ltd was located in Wenzhou, Zhejiang, China. Our company integrates R&D, production and sales, and committed to be the technology enterprise of low-voltage electrical equipment and automation control products.
After years of operating, our annual turnover has exceeded 100 million yuan. Geya' s product series involve a variety of low-voltage electrical equipment and automation control products, including miniature circuit breaker (MCB), molded case circuit breaker (MCCB), residual circuit breaker (RCB), isolation switch, contactors, relays, timer, distribution box, etc. The product series are complete and the application fields are wide, which is widely recognized by domestic and foreign customers.



Our four major sales areas cover six continents, and Geya has been chosen and trusted by more than 40 foreign companies. We takes the development concept of "pursue nature of things, reach to the world", sticking to high standards and high quality.

We have obtained a number of national invention patents, and deployed our brand GEYA in most countries around the world. Global certifications include CCC, CE, SAA, SEMKO, TUV, CE and other EU authoritative certifications.

Our sales team gradually promote Geya brand to the global market, we sincerely welcome customers to achieve win-win and common development with Geya!



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GRT8-A/B Single-function time relay

Time Relay



Applications

- Suitable for applications where function and time requirements are know.
- Time switch , possible to be used for pump decay time after switching heating off , switching of fans.

Feature

- Single-function relay with possibility of time setting by a potentiometer.
- Choice of 2 functions:
  A:Delay ON
  B:Delay OFF
- Time scale 0.1 s - 10 days divided into 10 ranges.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

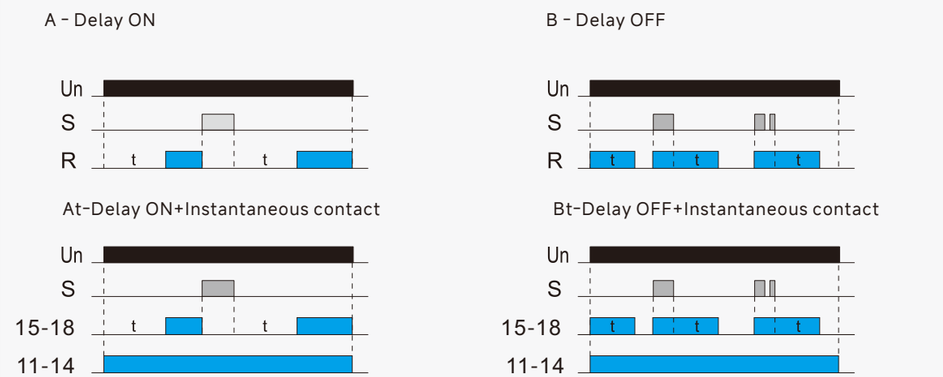
GRT8 – A □/□

- Rated control supply voltage: A230:AC230V ; W240:AC/DC12V-240V;
- Number of contacts: 1:1×SPDT; 2:2×SPDT; t:1×SPDT(del)+1×SPDT(ins);
- Function mode: A :Delay ON; B :Delay OFF;
- GRT8 Series

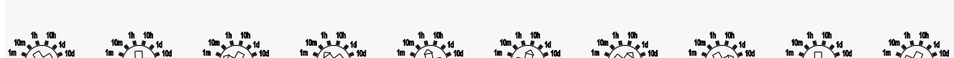
Technical parameters

		GRT8-A1/B1	GRT8-A2/B2	GRT8-At/Bt
Function		A:delay ON;B:delay OFF		
Supply terminals		A1-A2		
Voltage range	W240	AC/DC 12-240V(50-60Hz)		
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W		
Voltage range	A230	AC 230V(50-60Hz)		
Power input	A230	AC max.6VA/1.3W	AC max.6VA/1.3W	
Supply voltage tolerance		-15%;+10%		
Supply indication		green LED		
Time ranges		0.1s-10days,ON,OFF		
Time setting		potentionmeter		
Time deviation		10%-mechanical setting		
Repeat accuracy		0.2%-set value stability		
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)		
Output		1 X SPDT	2 X SPDT	1 X SPDT(del)+1X SPDT(ins)
Current rating		1 X 16A(AC1)	2 X 16A(AC1)	2 X 16A(AC1)
Switching voltage		250VAC/24VDC		
Min.breaking capacity DC		500mW		
Output indication		Red LED		
Mechanical life		$1x10^7$		
Electrical life(AC1)		$1x10^5$		
Reset time		max.200ms		
Operating temperature		-20°C to + 55°C(-4°F to 131°F)		
Storage temperature		-35°C to + 75°C(-22°F to 158°F)		
Mounting/DIN rail		Din rail EN/IEC 60715		
Protection degree		IP40 for front panel/IP20 terminals		
Operating position		any		
Overvoltage category		III		
Pollution degree		2		
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)		
Dimensions		90x18x64mm		
Weight		1XSPDT:W240-60g, A230-59g		
		2XSPDT:W240-81g, A230-79g		
Standards		EN 61812-1.IEC6947-5-1		

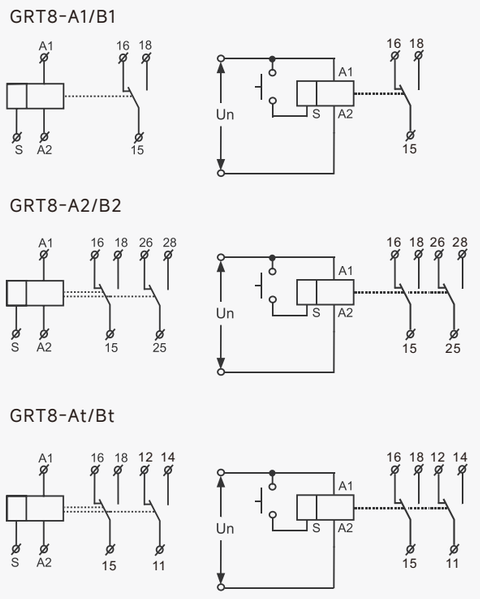
Functions Diagram



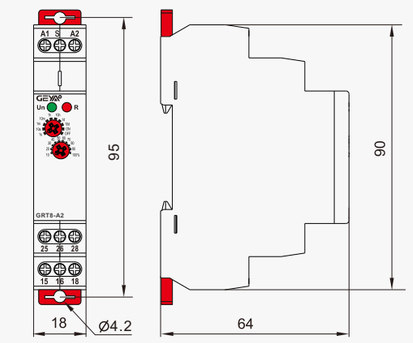
Time Range



Wiring Diagram



Dimensions(mm)





Applications

- Multifunction time relay can be used for electrical appliances, control of lights, heating, motors, pumps and fans (10 functions, 10 time ranges, multi-voltage).

Feature

- 10 functions: 5 time functions controlled by supply voltage
  4 time functions controlled by control input
  1 function of latching relay
- Comfortable and well-arranged function and time-range setting by rotary switches.
- Time scale 0.1 s - 10 days divided into 10 ranges.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRT8 — M □/□

- Rated control supply voltage: A230:AC230V ; W240:AC/DC12V-240V;
- Number of contacts: 1:1×SPDT; 2:2×SPDT;
- Multifunction time relay
- GRT8 Series

Technical parameters

		GRT8-M1	GRT8-M2
Function		A,B,C,D,E,F,G,H,I,J	
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input	A230	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		green LED	
Time ranges		0.1s-10days,ON,OFF	
Time setting		potentionmeter	
Time deviation		10%-mechanical setting	
Repeat accuracy		0.2%-set value stability	
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)	
Output		1 X SPDT	2 X SPDT
Current rating		1 X 16A(AC1)	2 X 16A(AC1)
Switching voltage		250VAC/24VDC	
Min.breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		$1x10^7$	
Electrical life(AC1)		$1x10^5$	
Reset time		max.200ms	
Operating temperature		-20°C to + 55°C(-4°F to 131°F)	
Storage temperature		-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail		Din rail EN/IEC 60715	
Protection degree		IP40 for front panel/IP20 terminals	
Operating position		any	
Overvoltage category		III	
Pollution degree		2	
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions		90x18x64mm	
Weight		1XSPDT:W240-62g, A230-60g	
		2XSPDT:W240-82g, A230-81g	
Standards		EN 61812-1.IEC6947-5-1	

Functions Diagram

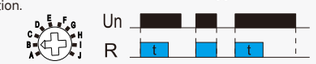
A:On Delay (Power On)

When the input voltage U is applied, timing delay t begins. Relay contacts R change state after time delay is complete. Contacts R return to their shelf state when input voltage U is removed. Trigger switch is not used in this function.



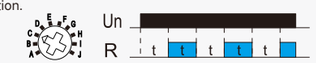
B:Interval (Power On)

When input voltage U is applied, relay contacts R change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage U is removed, contacts will also return to their shelfstate. Trigger switch is not used in this function.



C:Repeat Cycle (Starting Off)

When input voltage U is applied, time delay t begins. When time delay t is complete, relay contacts R change state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.



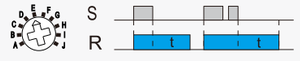
D:Repeat Cycle (Starting On)

When input voltage U is applied, relay contacts R change state immediately and time delay t begins. When time delay t is complete, contacts return to their shelf state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.



E:Off Delay (S Break)

Input voltage U must be applied continuously. When trigger switch S is closed, relay contacts R change state. When trigger switch S is opened, delay t begins. When delay t is complete, contacts R return to their shelf state. If trigger switch S is closed before time delay t is complete, then time is reset. When trigger switch S is opened, the delay begins again, and relay contacts R remain in their energized state. If input voltage U is removed, relay contacts R return to their shelf state.



F:Single Shot

Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. During time-out, the trigger signal S is ignored. The relay resets by applying the trigger switch S when the relay is not energized.



G:Single Shot Trailing Edge (Non-Retriggerable)

Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. At the end of the preset time t, the relay contacts R return to their normal condition unless the trigger switch S is opened and closed prior to time out t (before preset time elapses). Continuous cycling of the trigger switch S at a rate faster than the preset time will cause the relay contacts R to remain closed. If input voltage U is removed, relay contacts R return to their shelf state



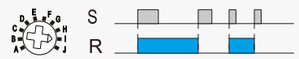
H:On/Off Delay

Input voltage U must be applied continuously. When trigger switch S is closed, time delay t begins. When time delay t is complete, relay contacts R change state and remain transferred until trigger switch S is opened. If input voltage U is removed, relay contacts R return to their shelf state.



I:Latching relay

Input voltage U must be applied continuously. Output changes state with every trigger switch S closure. If input voltage U is removed, relay contacts R return to their shelf state.



J:Pulse generator

Upon application of input voltage U, a single output pulse of 0.5 seconds is delivered to relay after time delay t. Power must be removed and reapplied to repeat pulse. Trigger switch is not used in this function.

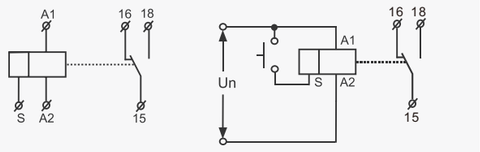


Time Range

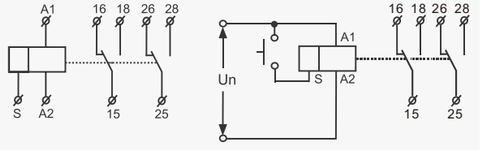


Wiring Diagram

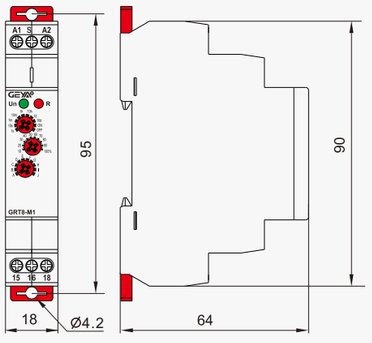
GRT8-M1



GRT8-M2

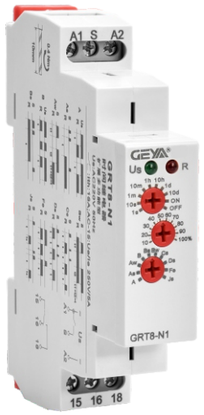


Dimensions(mm)



GRT8-N Extended multifunction time relay

Time Relay



Applications

- Multifunction time relay can be used for electrical appliances, control of lights, heating, motors, pumps and fans (10 functions, 10 time ranges, multi-voltage).

Feature

- 10 functions: 8 time functions controlled by supply voltage
  2 time functions controlled by control input
- Comfortable and well-arranged function and time-range setting by rotary switches.
- Time scale 0.1 s - 10 days divided into 10 ranges.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRT8 — N □/□

- Rated control supply voltage: A230:AC230V; W240:AC/DC12V-240V;
- Number of contacts: 1:1×SPDT; 2:2×SPDT;
- Multifunction time relay
- GRT8 Series

Technical parameters

		GRT8-N1	GRT8-N2
Function		A,As,Aw,B,Bs,Bw,Cs,Ds,Fe,Js	
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input	A230	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		green LED	
Time ranges		0.1s-10days,ON,OFF	
Time setting		potentionmeter	
Time deviation		10%-mechanical setting	
Repeat accuracy		0.2%-set value stability	
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)	
Output		1 X SPDT	2 X SPDT
Current rating		1 X 16A(AC1)	2 X 16A(AC1)
Switching voltage		250VAC/24VDC	
Min.breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		$1x10^7$	
Electrical life(AC1)		$1x10^5$	
Reset time		max.200ms	
Operating temperature		-20°C to + 55°C(-4°F to 131°F)	
Storage temperature		-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail		Din rail EN/IEC 60715	
Protection degree		IP40 for front panel/IP20 terminals	
Operating position		any	
Overvoltage category		III	
Pollution degree		2	
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions		90x18x64mm	
Weight		1XSPDT:W240-62g, A230-60g	
		2XSPDT:W240-82g, A230-81g	
Standards		EN 61812-1.IEC6947-5-1	

Functions Diagram

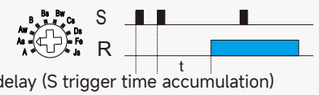
A:On delay (Power On)

When relay Un is powered on, the relay starts to delay, and the output contact is closed after delay t. After the relay Un is de energized, the output contact R is disconnected and the S control signal is invalid in this function mode.



As:On delay (S rising edge start)

The relay Un is in the energized state. When the S control signal is triggered, the relay starts to delay.After the delay t, the output contact R is closed and held. During the delay period, if the signal is triggered again, restart the delay.When the relay Un is de energized,the relay output contact R opens.



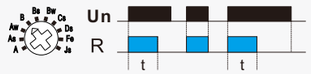
Aw:On delay (S trigger time accumulation)

When the relay Un is energized and the cumulative delay during the closing of Scontrol signal reaches t,The output contact R is closed.



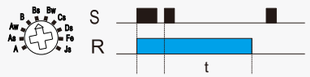
B:Interval (Power On)

When relay Un is powered on, the relay output contact R will be closed immediately and start delay. After delay t, the output contact R will be disconnected. If the delay time t does not arrive and relay Un is powered off, the output contact R will be disconnected, and the S control signal is invalid in this function mode.



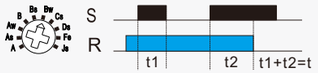
Bs:Off delay(S rising edge trigger start)

The relay Un is in the energized state. When the S control signal is connected, the output contact R of the relay is closed and starts to delay. After the delay t, the output contact R is disconnected. If the S control signal is connected again during the delay, the delay t is cleared and delayed again.



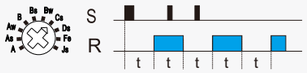
Bw:Off delay(S trigger time accumulation)

When the relay Us is powered on, the the output contact R is closed. When the cumulative delay during the closing of S control end reaches t,The output contact R is open.



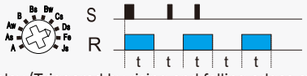
Cs:Repeat Cycle (Starting Off ,S rising edge start)

The relay Un is in the energized state. When the S control signal is closed, the relay starts to delay and is input after a delay time t,The output contactR is closed, and after the delay time t, the output contact R of the relay is disconnected, This cycle will repeat until relay Us is de energized.



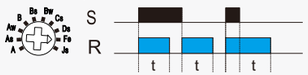
Ds:Repeat Cycle (Starting On ,S rising edge trigger start)

The relay Un is in the energized state. When the S control signal is closed,the relay output contact R closes and start delay, the output contact R is disconnected after delay t, and the relay output contact R is closed after delay t,This cycle will repeat until relay Us is de energized.



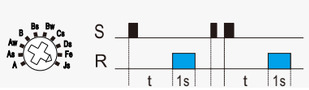
Fe:On and off delay (Triggered by rising and falling edges of S)

The relay Un is in the energized state. When the S control signal is connected, the output contact R closed and starts to delay, with a delay of t the output contact R open. When the S control signal is disconnected, the output contact is closed and starts to delay, with a delay of t the output contact R open.



Js:Pulse output (Triggered by rising edge of S)

The relay Un is in the energized state. when the S control signal is connected, the relay starts to delay, with a delay of t, the relay output contact R is closed for 1 second and then the output contact R open.

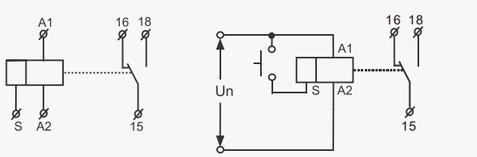


Time Range

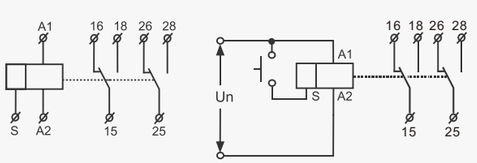


Wiring Diagram

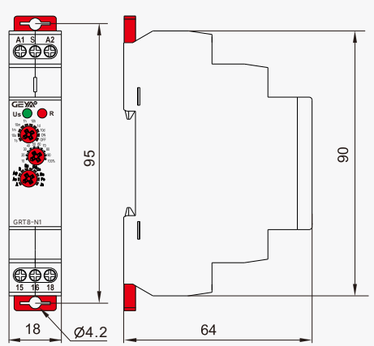
GRT8-N1



GRT8-N2



Dimensions(mm)



GRT8-EC Dual function time relay



Applications

- Dual function time relay can be used for industrial equipment, lighting control, heating element control, motor and fan control, with two delay modes, and the delay range covers 0.1 seconds to 10days.

Feature

- Two delay modes can be set.
- Supports AC230V ,AC/DC24V two kinds of working voltage.
- Ultra wide delay range, 0.1 seconds - 10 days can be set..
- The working state of the relay is indicated by the LED indicator.
- Ultra small size, only 18mm width, 35mm rail installation.

Model and connotation

GRT8 – EC /□

- □ — Rated control supply voltage — A230:AC230V ; A400:AC400V; S240:AC/DC24V-240V
- EC — Dual function Time Relay
- GRT8 — GRT8 Series

Technical parameters

	GRT8-EC
Function	ON delay, Delay off
Supply terminals	A1-A2(AC230V,AC380V),AC/DC24V-240V),A1-A3(AC/DC24V)
Voltage range	AC230V(50-60Hz) or AC/DC24V, AC380V(50-60Hz),AC/DC24V-240V(50-60Hz)
Power input	AC max.6VA/1.3W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	0.1s-10day
Time setting	potentionmeter
Time deviation	≤10%
Repeat accuracy	0.2%-set value stability
Temperature coefficient	0.05%/°C , at=20°C(0.05%°F， at=68°F)
Output	1×SPDT
Current rating	1×10A(AC1)
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Reset time	max.200ms
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm^2)	solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x18x64mm
Weight	52g
Standards	EN 61812-1.IEC6947-5-1

Functions Diagram

Delay on

When the relay Un is powered on, the relay starts to delay, and the output contact closes after delay. When Un is powered off, the output contact is disconnected.

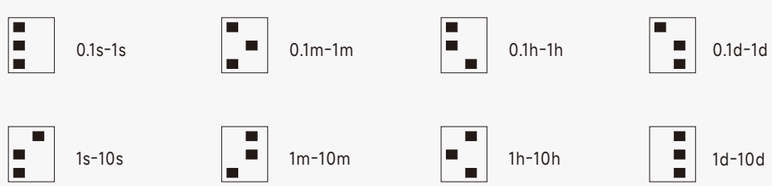


Delay off

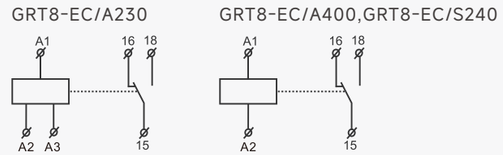
When the relay Un is powered on, the output contact of the relay will close immediately and start to delay, and output after delay,The contact is open. If the delay time t is not up to the power loss of relay Un, the output contact is open.



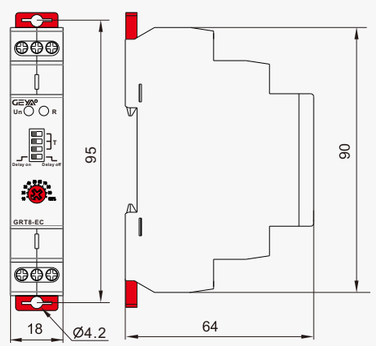
Time Range



Wiring Diagram



Dimensions(mm)





Applications

- Multifunctional time relay with digital settings can be used for industrial equipment, lighting control, heating element control, motor and fan control.It has four delay modes and the delay range covers 0.1 seconds to 99 hours.

Feature

- Four functional modes can be set.
- Through digital dialing settings, it is easy to operate and set more precisely.
- Extra wide delay range, 0.1 seconds - 99 hours can be set.
- With AC/DC 12V-240V ultra wide operating voltage specifications are
- optional.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRT8 — K □/□

- Rated control supply voltage: A230:AC230V ; W240:AC/DC12V-240V;
- Number of contacts: 1:1×SPDT; 2:2×SPDT;
- Digital Setting Time Relay
- GRT8 Series

Technical parameters

		GRT8-K1	GRT8-K2
Function		A,B,E,F	
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden	W240	AC 0.9-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input	A230	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		green LED	
Time ranges		0.1s-99h ,ON,OFF	
Time setting		Digital switch	
Time deviation		≤1%	
Repeat accuracy		0.2%-set value stability	
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)	
Output		1 X SPDT	2 X SPDT
Current rating		1 X 16A(AC1)	2 X 8A(AC1)
Switching voltage		250VAC/24VDC	
Min.breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		$1x10^7$	
Electrical life(AC1)		$1x10^5$	
Reset time		max.200ms	
Operating temperature		-20°C to + 55°C(-4°F to 131°F)	
Storage temperature		-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail		Din rail EN/IEC 60715	
Protection degree		IP40 for front panel/IP20 terminals	
Operating position		any	
Overvoltage category		III	
Pollution degree		2	
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions		90x18x64mm	
Weight		1XSPDT:W240-64g, A230-64g	
		2XSPDT:W240-72g, A230-72g	
Standards		EN 61812-1.IEC6947-5-1	

Functions Diagram

A:On Delay (Power On)

When the input voltage U is applied, timing delay t begins. Relay contacts R change state after time delay is complete. Contacts R return to their shelf state when input voltage U is removed. Trigger switch is not used in this function.



B:Interval (Power On)

When input voltage U is applied, relay contacts R change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage U is removed, contacts will also return to their shelfstate. Trigger switch is not used in this function.



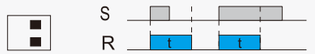
E:Off Delay (S Break)

Input voltage U must be applied continuously. When trigger switch S is closed, relay contacts R change state. When trigger switch S is opened, delay t begins. When delay t is complete, contacts R return to their shelf state. If trigger switch S is closed before time delay t is complete, then time is reset. When trigger switch S is opened, the delay begins again, and relay contacts R remain in their energized state. If input voltage U is removed, relay contacts R return to their shelf state.

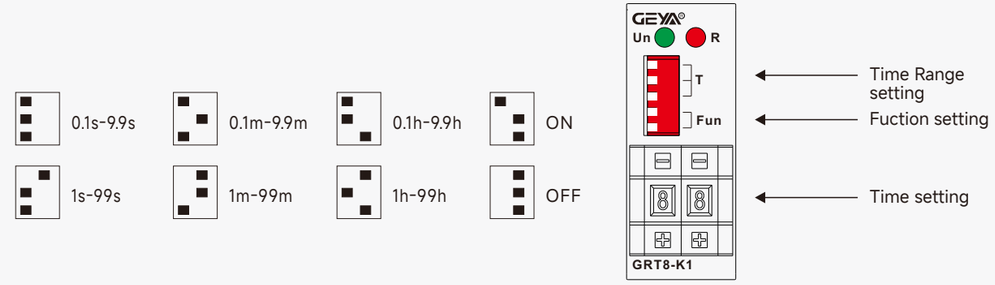


F:Single Shot

Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. During time-out, the trigger signal S is ignored. The relay resets by applying the trigger switch S when the relay is not energized.

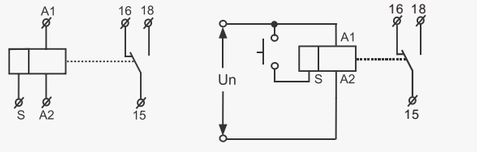


Time Range

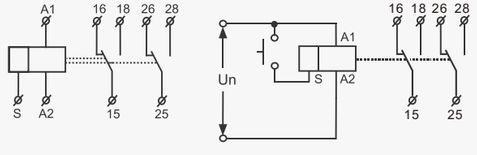


Wiring Diagram

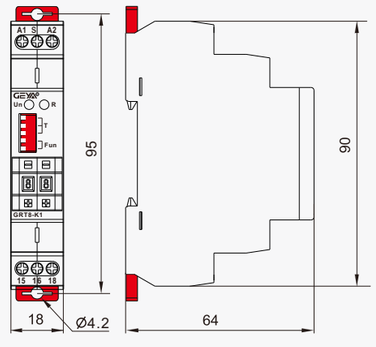
GRT8-K1



GRT8-K2



Dimensions(mm)





Applications

- Multifunctional time relay can be used for industrial equipment, lighting control, heating element control, motor, fan control.
- With 20 delay modes, the delay range covers 0.1 seconds to 99 days.

Feature

- 20 delay modes:
- 5 delay modes controlled by power supply
- 13 delay modes controlled by signal
- ON, OFF mode
- Ultra wide delay range, 0.1 seconds - 99 days can be set.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

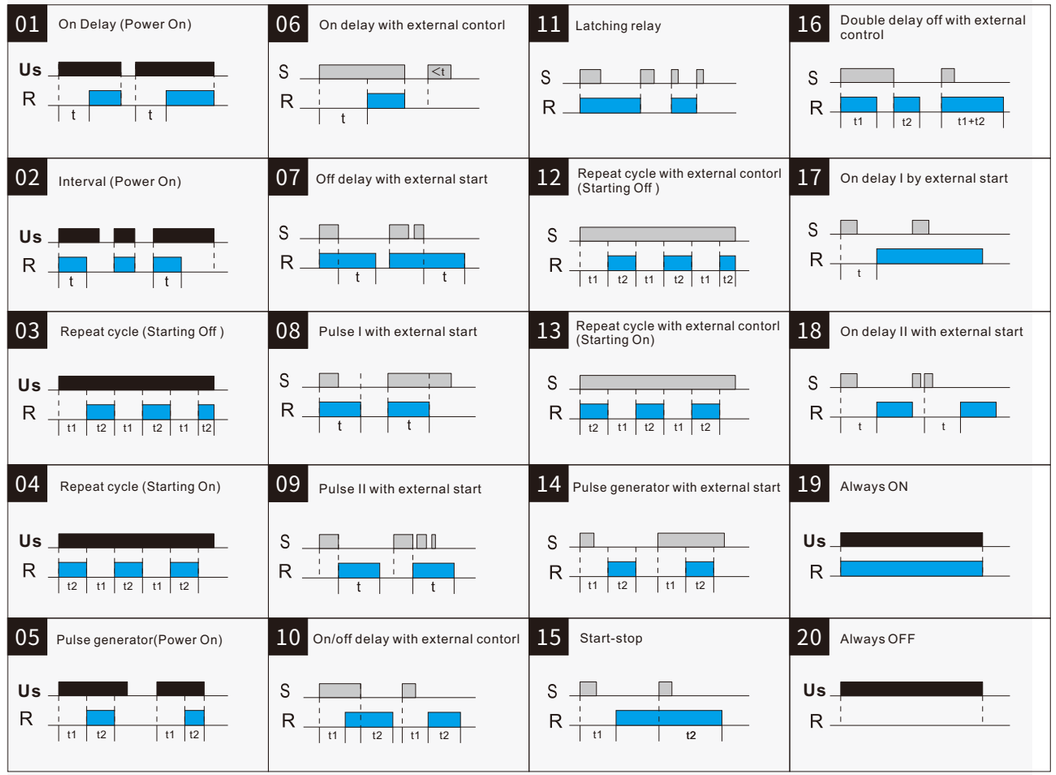
GRT8 – X □/□

- Rated control supply voltage: A230:AC230V ; W240:AC/DC12V-240V;
- Number of contacts: 1:1×SPDT; 2:2×SPDT;
- Digital Display Time Relay
- GRT8 Series

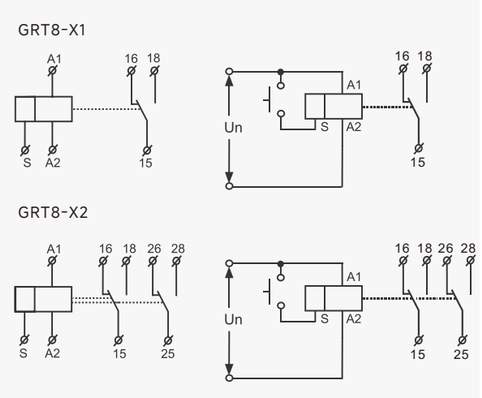
Technical parameters

		GRT8-X1	GRT8-X2
Function		20 functions	
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input	A230	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		-	
Time ranges		0.1s-99day ,ON,OFF	
Time setting		Key setting	
Time deviation		≤1%	
Repeat accuracy		0.2%-set value stability	
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)	
Output		1 X SPDT	2 X SPDT
Current rating		1 X 16A(AC1)	2 X 16A(AC1)
Switching voltage		250VAC/24VDC	
Min.breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		$1x10^7$	
Electrical life(AC1)		$1x10^5$	
Reset time		max.200ms	
Operating temperature		-20°C to + 55°C(-4°F to 131°F)	
Storage temperature		-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail		Din rail EN/IEC 60715	
Protection degree		IP40 for front panel/IP20 terminals	
Operating position		any	
Overvoltage category		III	
Pollution degree		2	
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions		90x18x64mm	
Weight		1XSPDT:W240-62g, A230-60g	
		2XSPDT:W240-82g, A230-81g	
Standards		EN 61812-1.IEC6947-5-1	

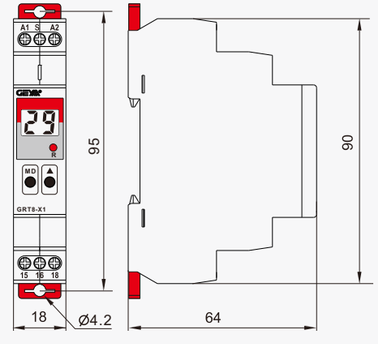
Functions Diagram



Wiring Diagram



Dimensions(mm)





Applications

- For gradual switching of heavy powers (e.g. el.heating), prevents current strokes in the main.

Feature

- 2 x Delay ON (2 time relays in one)
- Time scale 0.1s - 10 days divided into 10 time ranges: 0.1s - 1s / 1s - 10s / 0.1min - 1min / 1min - 10min / 0.1h - 1h / 1h - 10hrs / 0.1 day - 1 day / 1 day - 10 days / ON / OFF.
- Times t1 and t2 are independantly adjustable.
- t1 and t2 are switched on after supply voltage connection.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

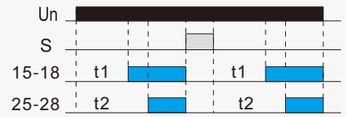
GRT8 – 2T /□

- □ — Rated control supply voltage: A230:AC230V ; W240:AC/DC12V-240V
- 2T — Double delay time relay
- GRT8 — GRT8 Series

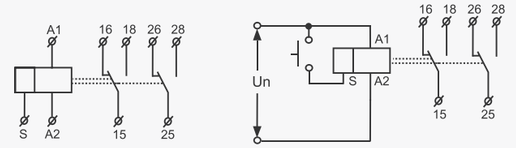
Technical parameters

		GRT8-2T
Function		2 X Delay ON
Supply terminals		A1-A2
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input	A230	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		0.1s-10 days ,ON,OFF
Time setting		potentionmeter
Time deviation		10%-mechanical setting
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F， at=68°F)
Output		2 X SPDT
Current rating		16A(AC1)
Switching voltage		250VAC/24VDC
Min.breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		$1x10^7$
Electrical life(AC1)		$1x10^5$
Reset time		max.200ms
Operating temperature		-20°C to + 55°C(-4°F to 131°F)
Storage temperature		-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail		Din rail EN/IEC 60715
Protection degree		IP40 for front panel/IP20 terminals
Operating position		any
Overvoltage category		III
Pollution degree		2
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		W240-82g, A230-82g
Standards		EN 61812-1.IEC6947-5-1

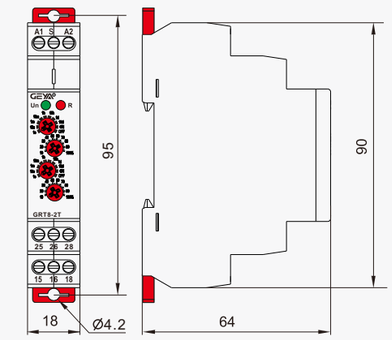
Functions Diagram



Wiring Diagram



Dimensions(mm)





Applications

- It is used for regular room ventilation, cyclic dehumidification, light control, circulating pumps, noon signs, etc.

Feature

- 2 time functions:
- Cycler beginning with pulse
- Cycler beginning with pause
- Function choice is done by an external jumper of terminals S-A1.
- Time scale 0.1 s - 100 days devided into 10 time ranges:(0.1 s - 1 s / 1 s - 10 s / 0.1 min - 1 min / 1 min - 10 min / 0.1 hrs - 1 h / 1 hrs - 10 hrs / 0.1 day - 1 day /1 day - 10 days /3 days - 30 days / 10 days - 100 days).
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

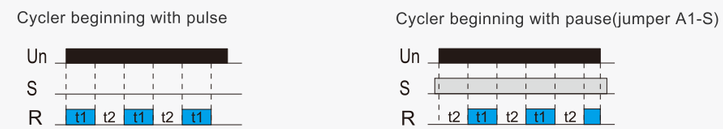
GRT8 – S □/□

- Rated control supply voltage: A230:AC230V ; W240:AC/DC12V-240V;
- Number of contacts: 1:1×SPDT; 2:2×SPDT;
- Asymmetric cycler
- GRT8 Series

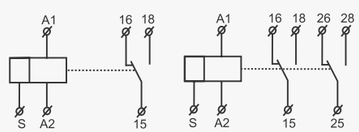
Technical parameters

		GRT8-S1	GRT8-S2
Function		Asymmetric cycler time relay	
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input	A230	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		green LED	
Time ranges		0.1s-100days	
Time setting		potentionmeter	
Time deviation		10%-mechanical setting	
Repeat accuracy		0.2%-set value stability	
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F, at=68°F)	
Output		1 X SPDT	2 X SPDT
Current rating		1 X 16A(AC1)	2 X 16A(AC1)
Switching voltage		250VAC/24VDC	
Min.breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		$1x10^7$	
Electrical life(AC1)		$1x10^5$	
Reset time		max.200ms	
Operating temperature		-20°C to + 55°C(-4°F to 131°F)	
Storage temperature		-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail		Din rail EN/IEC 60715	
Protection degree		IP40 for front panel/IP20 terminals	
Operating position		any	
Overvoltage category		III	
Pollution degree		2	
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions		90x18x64mm	
Weight		1XSPDT:W240-62g, A230-61g	
		2XSPDT:W240-82g, A230-82g	
Standards		EN 61812-1,IEC6947-5-1	

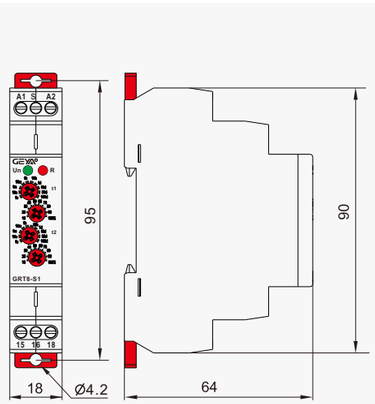
Functions Diagram



Wiring Diagram



Dimensions(mm)





Applications

- It is used to delay and generate a pulse, which is used to delay the connection of a load for a period of time.

Feature

- Separate delay time and pulse width setting can set different delay time.
- Time scale 0.1 s - 100 days.
- The delay time can be reset by shorting S-A1.
- With AC/DC 12V-240V ultra wide operating voltage specifications are
- optional.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

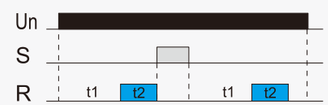
GRT8 – P □/□

- Rated control supply voltage: A230:AC230V ; W240:AC/DC12V-240V;
- Number of contacts: 1:1×SPDT; 2:2×SPDT;
- Pulse output time relay
- GRT8 Series

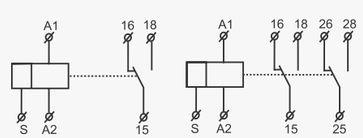
Technical parameters

		GRT8-P1	GRT8-P2
Function		Pulse output time relay	
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input	A230	AC max.6VA/1.3W	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		green LED	
Time ranges		0.1s-100days	
Time setting		potentionmeter	
Time deviation		10%-mechanical setting	
Repeat accuracy		0.2%-set value stability	
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F， at=68°F)	
Output		1 X SPDT	2 X SPDT
Current rating		1 X 16A(AC1)	2 X 16A(AC1)
Switching voltage		250VAC/24VDC	
Min.breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		$1x10^7$	
Electrical life(AC1)		$1x10^5$	
Reset time		max.200ms	
Operating temperature		-20°C to + 55°C(-4°F to 131°F)	
Storage temperature		-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail		Din rail EN/IEC 60715	
Protection degree		IP40 for front panel/IP20 terminals	
Operating position		any	
Overvoltage category		III	
Pollution degree		2	
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)	
Dimensions		90x18x64mm	
Weight		1XSPDT:W240-62g, A230-61g	
		2XSPDT:W240-82g, A230-82g	
Standards		EN 61812-1,IEC6947-5-1	

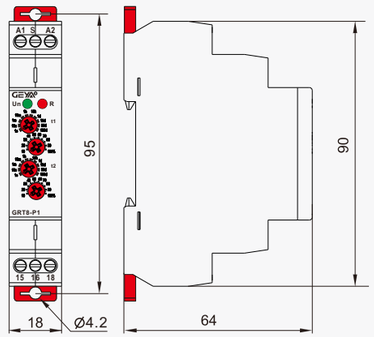
Functions Diagram



Wiring Diagram



Dimensions(mm)





Applications

- Right-Left(inverser) timer relay are used for 2 different loads,which works by turn. First load starts working,stops and waits(off) and second load starts working.Both working time is same.

Feature

- The default is right load first. You can select left load first by shorting S-A1
- Time scale 0.1 s - 100 days devided into 10 time ranges: (0.1 s - 1 s / 1 s - 10 s / 0.1 min - 1 min / 1 min - 10 min / 0.1 hrs - 1 h / 1 hrs - 10 hrs / 0.1 day - 1 day /1 day - 10 days /3 days - 30 days / 10 days - 100 days).
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRT8 — RL /□
- Rated control supply voltage — A230:AC230V ; W240:AC/DC12V-240V
- Right-Left inverser time relay
- GRT8 Series

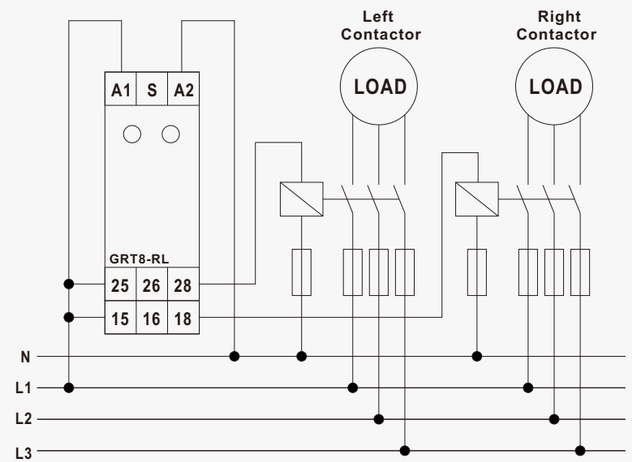
Technical parameters

		GRT8-RL
Function		Right-Left inverser time relay
Supply terminals		A1-A2
Voltage range	W240	AC/DC 12-240V(50-60Hz)
Burden	W240	AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input	A230	AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		0.1s-100 days
Time setting		potentionmeter
Time deviation		10%-mechanical setting
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F， at=68°F)
Output		2 X SPDT
Current rating		16A(AC1)
Switching voltage		250VAC/24VDC
Min.breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		$1x10^7$
Electrical life(AC1)		$1x10^5$
Reset time		max.200ms
Operating temperature		-20°C to + 55°C(-4°F to 131°F)
Storage temperature		-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail		Din rail EN/IEC 60715
Protection degree		IP40 for front panel/IP20 terminals
Operating position		any
Overvoltage category		III
Pollution degree		2
Max.cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		W240-82g, A230-82g
Standards		EN 61812-1.EN61010-1

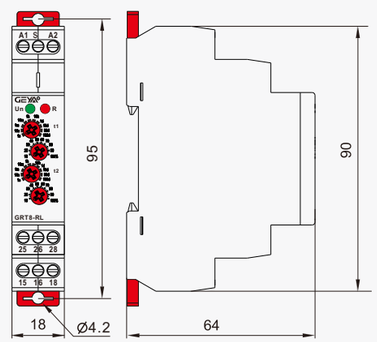
Functions Diagram



Wiring Diagram



Dimensions(mm)





Applications

- Back-up source for Delay OFF in case of voltage failure (emergency lighting, emergency respirator,or protection of el. controlled doors - in case of fire).

Feature

- Time range (adjustable by rotary switch and fi ne setting by potentiometer): 0.1 s - 10 min.
- Voltage range: AC/DC12-240V , clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

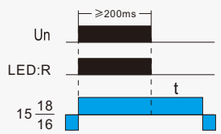
GRT8 — D /□

- □ — Rated control supply voltage — W240:AC/DC12V-240V
- D — Delay OFF without supply power
- GRT8 — GRT8 Series

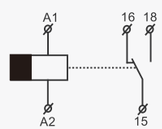
Technical parameters

	GRT8-D
Function	Delay OFF without supply power
Supply terminals	A1-A2
Voltage range	AC/DC12-240V(50-60Hz)
Burden	AC 0.7-3VA/DC 0.5-1.5W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	0.1s-10min
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Minimum power time	200ms
Temperature coefficient	0.05%/°C , at=20°C(0.05%°F， at=68°F)
Output	1×SPDT
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^6$
Electrical life(AC1)	$5x10^4$
Reset time	max.200ms
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm^2)	solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x18x64mm
Weight	66g
Standards	EN 61812-1.IEC6947-5-1

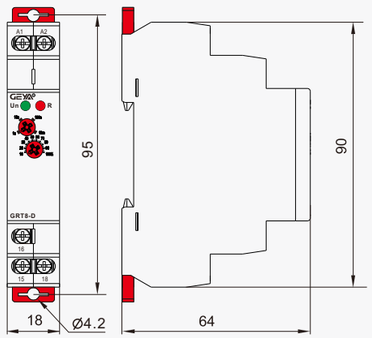
Functions Diagram



Wiring Diagram



Dimensions(mm)





Applications

- Designated for delay ON of motors star/delta.

Feature

- Time t1 (star) :
  time scale 0.1 s - 10min devided into 4 time ranges
  rough time setting by rotary switch.
- Time t2 (delay) :
  time scale 0.1 s - 1 s
  time setting by potentiometer
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRT8 – ST /□

- □: Rated control supply voltage
  - A230:AC230V;
  - A400:AC400V;
  - W240:AC/DC12V~240V;
- ST: Star/Delta time relay
- GRT8: GRT8 Series

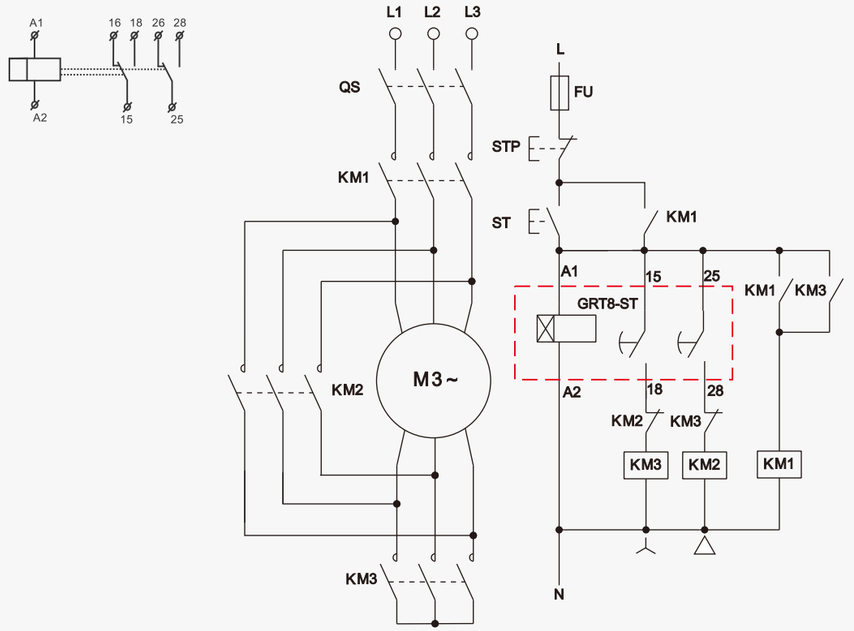
Technical parameters

		GRT8-ST
Function		Star/Delta time relay
Supply terminals		A1-A2
Voltage range	W240	AC/DC12-240V(50-60Hz)
Burden		AC 0.3-2VA/DC 0.1-1.2W
Voltage range	A230 A400	AC 230V/AC400V(50-60Hz)
Power input		AC max.6VA/1.3W
Supply voltage tolerance		-15%;+10%
Supply indication		green LED
Time ranges		Range of time delay t1:0.1s-10 min,Switch time t2: 0.1 s-1 s
Time setting		potentionmeter
Time deviation		10%-mechanical setting
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F， at=68°F)
Output		2×SPDT
Current rating		16A/AC1
Switching voltage		250VAC/24VDC
Min. breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		$1x10^7$
Electrical life(AC1)		$1x10^5$
Reset time		max.200ms
Operating temperature		-20°C to + 55°C(-4°F to 131°F)
Storage temperature		-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail		Din rail EN/IEC 60715
Protection degree		IP40 for front panel/IP20 terminals
Operating position		any
Overvoltage category		III
Pollution degree		2
Max. cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		W240-82g,A230-80g
Standards		EN 61812-1.IEC6947-5-1

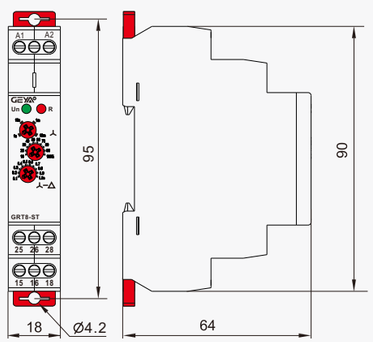
Functions Diagram



Wiring Diagram



Dimensions(mm)





Applications

- It is used for delayed switching of lights in the corridors, entrances, stairways, halls or for delayed finish of fans (WC, bathroom, etc.).

Feature

- Operating system switch:
  ON - output is constantly ON .
  AUTO - timing according to adjusting by potentiometer in range 0.5-20min
  OFF - output is constantly OFF.
- Voltage range: AC 230 V, clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

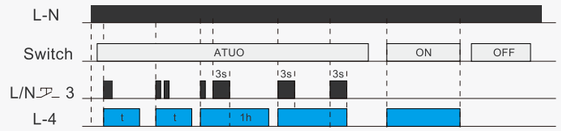
GRT8 — LS /□

- Rated control supply voltage — A230:AC230V
- Stairase Switch
- GRT8 Series

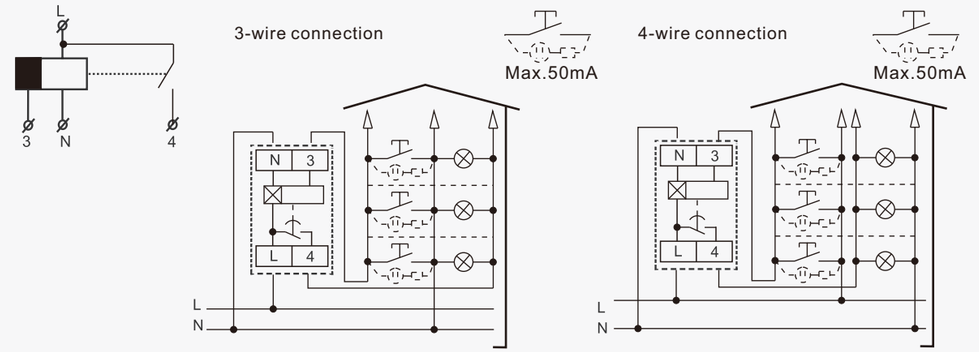
Technical parameters

	GRT8-LS
Function	delay off reacting to contact switching
Supply terminals	L-N
Voltage range	AC230V(50-60Hz)
Power input	AC max.1.2VA/0.8W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	AUTO:0.5-20min ON OFF
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Minimum power time	200ms
Glow tubes connetions	Yes(N-3 or L-3)
Max. amount of glow lamps	230V,max.75pcs(Measured with glow lamp 0.68mA/230V AC)
Temperature coefficient	0.05%/°C , at=20°C(0.05%°F, at=68°F)
Output	1×SPST
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Reset time	max.200ms
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm^2)	solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x18x64mm
Weight	61g
Standards	EN61812-1,IEC 60669-2-3,IEC60947-5-1

Functions Diagram



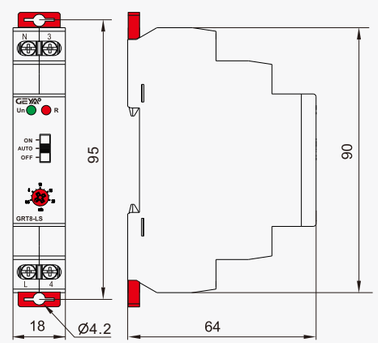
Wiring Diagram



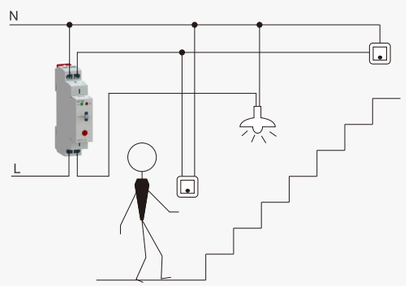
Types of lamps

2000W	2000W	1000W	900W(125uF)	400W	300W

Dimensions(mm)



Example



GRT8-LM Staircase switch



Applications

- It is used for delayed switching of lights in the corridors, entrances, stairways, halls or for delayed finish of fans (WC, bathroom, etc.).

Feature

- 10 functional modes
- It has zero crossing switching ability.
- Voltage range: AC 230 V, clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

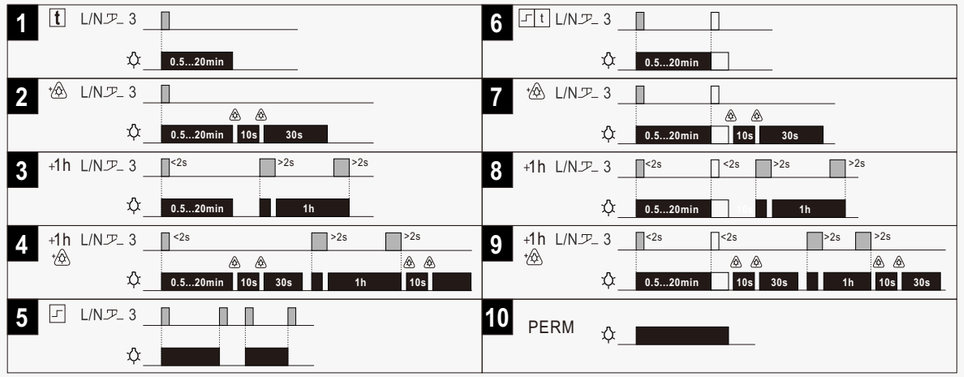
GRT8 – LM /□

- □ — Rated control supply voltage — A230:AC230V
- LM — Stairase Switch
- GRT8 — GRT8 Series

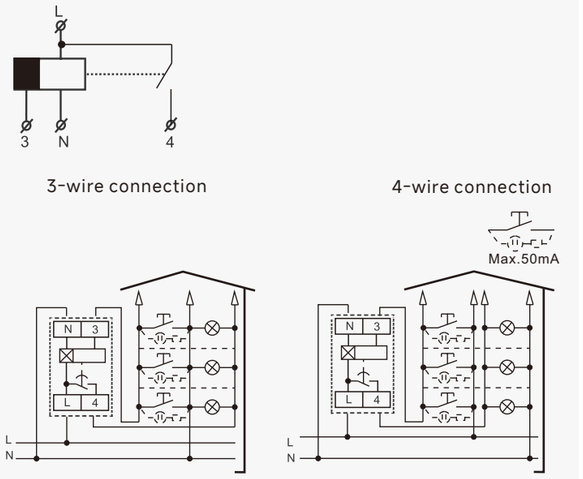
Technical parameters

	GRT8-LM
Function	delay off reacting to contact switching
Supply terminals	L-N
Voltage range	AC230V(50-60Hz)
Power input	AC max.1.2VA/0.8W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	0.5-20min
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Minimum power time	200ms
Glow tubes connetions	Yes(N-3 or L-3)
Max. amount of glow lamps	230V,max.75pcs(Measured with glow lamp 0.68mA/230V AC)
Temperature coefficient	0.05%/°C , at=20°C(0.05%°F, at=68°F)
Output	1×SPST(zero crossing switching)
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Reset time	max.200ms
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm^2)	solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x18x64mm
Weight	65g
Standards	EN61812-1,IEC 60669-2-3,IEC60947-5-1

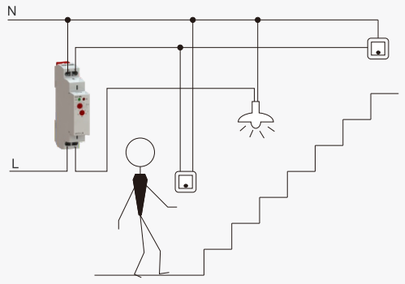
Functions Diagram



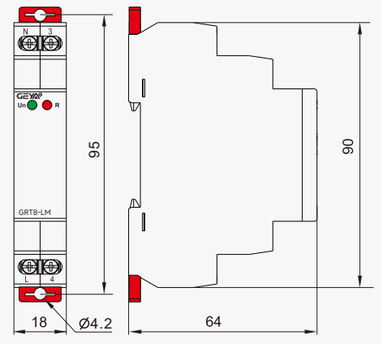
Wiring Diagram



Example



Dimensions(mm)



Types of lamps

Incandescent	3600W
Halogen lamp	3600W
Fluorescent, corrected, in series	1000W
Fluorescent, corrected, in paralle	900W(125uF)
Compact fluorescent	400W
LED lamps(＜2W)	55W
LED lamps(＞2W)	600W



Applications

- Bluetooth time control relay can be used for industrial equipment, lighting control, heating element control, motor and fan control, and regularly turn on and off loads.

Feature

- The relay is set through Bluetooth connection of mobile phone app, which is simple and easy to operate.
- 8 / 16 group timing setting.
- It has two working modes: automatic and manual.
- It has AC / DC 24v-240v ultra wide working voltage.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

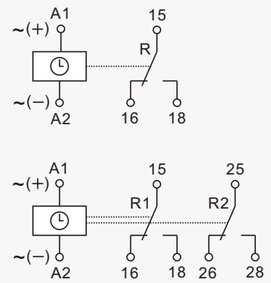
GRT8 — TS □/□

- Rated control supply voltage — S240:AC/DC24V-240V
- Number of contacts — 1:1×SPDT; 2:2×SPDT;
- Bluetooth time control relay
- GRT8 Series

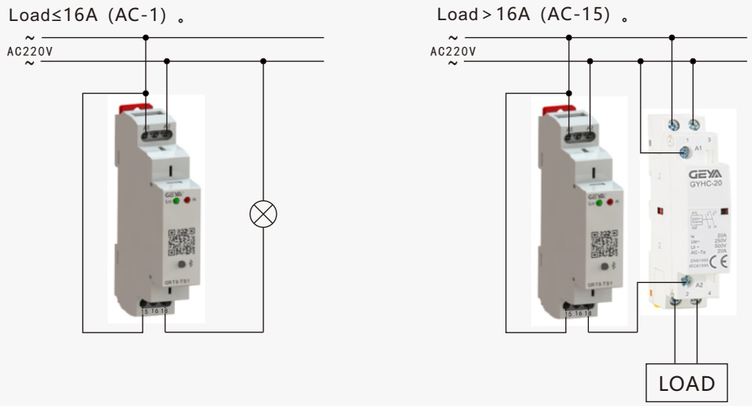
Technical parameters

	GRT8-TS1	GRT8-TS2
Function	Bluetooth time control relay	
Supply terminals	A1-A2	
Voltage range	AC/DC 24-240V 50Hz	
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Number of times	8-ON/8-OFF	2×8-ON/2×8-OFF
Time setting	APP(Bluetooth connectivity)	
Time deviation	±2s/day	
Output	1×SPDT	2×SPDT
	16A/AC1	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Operating temperature	-20°C to + 55°C(-4°F to 131°F)	
Storage temperature	-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	Ip20	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max. cable size(mm^2)	1×2.5mm^2 or 2×1.5mm^2 0.4N·m	
Dimensions	90x18x64mm	
Weight	62g	82g
Standards	GB/T14048.5,IEC60947-5-1,EN 61812-1	

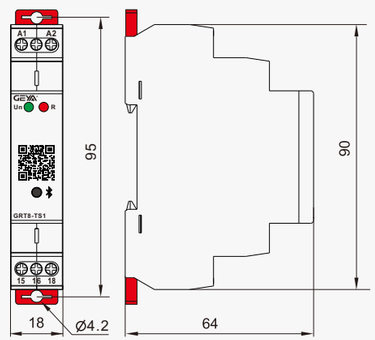
Wiring Diagram



Example



Dimensions(mm)





Applications

- The forward and reverse control time relay can be used to control the forward and reverse rotation of the motor.

Feature

- You can individually set the forward, stop, and reverse times.
- With a forced stop function, it can be pressed to stop forward or reverse rotation at any time.
- Ultra wide delay range, 0.1 seconds - 99 days can be set.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

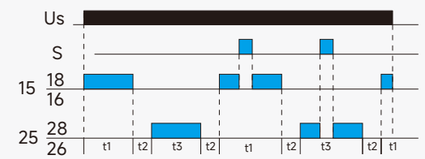
GRT8 – FR /□

- □ — Rated control supply voltage: A230:AC230V; W240:AC/DC12V-240V;
- FR — Forward and reverse control time relay
- GRT8 — GRT8 Series

Technical parameters

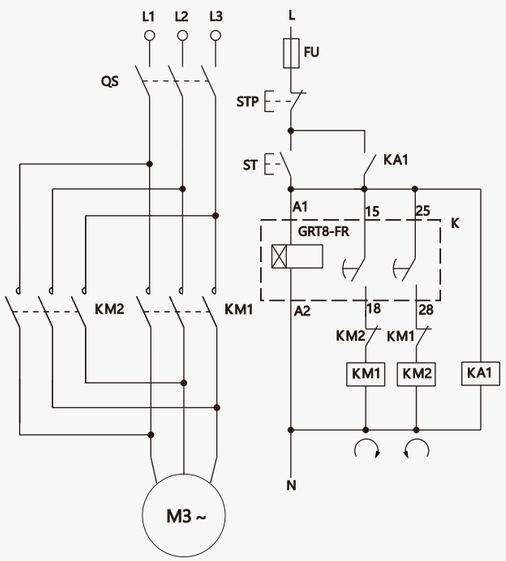
		GRT8-FR
Function		Forward and reverse control time relay
Supply terminals		A1-A2
Voltage range	W240	AC/DC12-240V(50-60Hz)
Burden		AC 0.7-3VA/DC 0.5-1.7W
Voltage range	A230	AC 230V(50-60Hz)
Power input		AC max.6VA/1.9W
Supply voltage tolerance		-15%;+10%
Time ranges		0.1s-99day,ON,OFF
Time setting		Key setting
Time deviation		≤1%
Repeat accuracy		0.2%-set value stability
Temperature coefficient		0.05%/°C , at=20°C(0.05%°F， at=68°F)
Output		2×SPDT
Current rating		16A/AC1
Switching voltage		250VAC/24VDC
Min. breaking capacity DC		500mW
Output indication		Red LED
Mechanical life		$1x10^7$
Electrical life(AC1)		$1x10^5$
Reset time		max.200ms
Operating temperature		-20°C to + 55°C(-4°F to 131°F)
Storage temperature		-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail		Din rail EN/IEC 60715
Protection degree		IP40 for front panel/IP20 terminals
Operating position		any
Overvoltage category		III
Pollution degree		2
Max. cable size(mm^2)		solid wire max.1x2.5 or 2x1.5/with sleeve max.1x2.5(AWG 12)
Dimensions		90x18x64mm
Weight		W240-82g,A230-81g
Standards		EN 61812-1.IEC6947-5-1

Functions Diagram

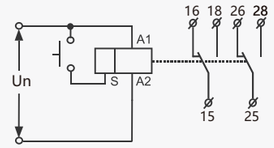


t1: Forward rotation time
t2: Stop time
t3: Reverse rotation time

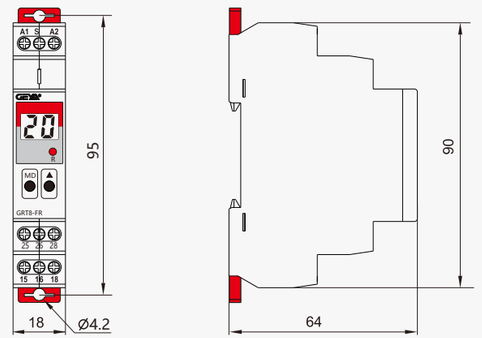
Example



Wiring Diagram



Dimensions(mm)





Applications

- It turns on and off the load periodically and regularly, and usually control shousehold equipment such as lights and appliances.

Feature

- Support access to Tuya's App Tuya smart.
- The on and off time of the load can be conveniently set through the App.
- On and off can be controlled manually.
- The cycle on / off can be set during the on time.
- DIN rail mounting.

Model and connotation

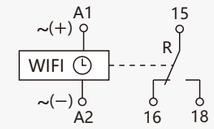
GRT8 – WS /□

- □ — Rated control supply voltage — N240:AC/DC110V-240V
- WS — WiFi time-control relay
- GRT8 — GRT8 Series

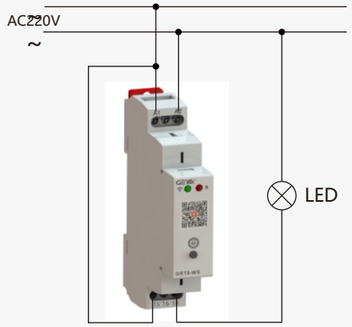
Technical parameters

	GRT8-WS
Function	WiFi time-control relay
Supply terminals	A1-A2
Voltage range	AC/DC 110-240V 50Hz
Burden	AC 0.7-3VA/DC 0.5-1.7W
Supply voltage tolerance	-15%;+10%
Supply indication	Green LED
Time setting	APP
Time deviation	±30s
WIFI connectivity	802.11 b/g/n 2.4GHz
Output	1×SPDT
	16A/AC1
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm^2)	1×2.5mm^2 or 2×1.5mm^2 0.4N·m
Dimensions	90x18x64mm
Weight	62g
Standards	GB/T14048.5,IEC60947-5-1,EN 61812-1

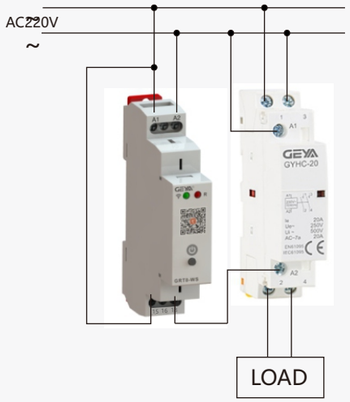
Wiring Diagram



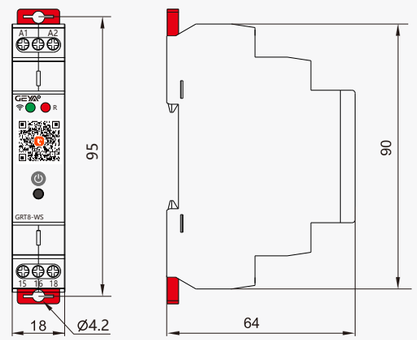
Load≤16A（AC-1）。



Load＞16A（AC-15）。



Dimensions(mm)



GRT8-LT Emergency light test relay



Applications

- Timer for automatic test of emergency lights

Feature

- Integrated test key.
- 1 change over contact.
- Voltage range: AC 230 V, clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

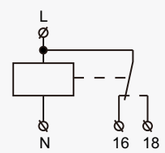
GRT8 – LT /□

- Rated control supply voltage — A230:AC230V
- Emergency light test relay
- GRT8 Series

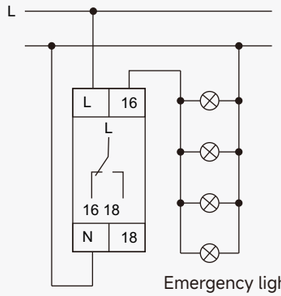
Technical parameters

	GRT8-LT
Function	Emergency light test relay
Supply terminals	L-N
Voltage range	AC 230V(50/60Hz)
Power input	AC max.1.2VA/0.8W
Supply voltage tolerance	-15%;+10%
Supply indication	green LED
Time ranges	0.5m-3hours
Time setting	potentionmeter
Time deviation	10%-mechanical setting
Repeat accuracy	0.2%-set value stability
Mininum power time	500ms
Temperature coecient	0.05%/°C
Output	1×SPDT
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity	500mW
DC Output indication	red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Reset time	max.200ms
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage cathegory	III
Pollution degree	2
Max. cable size(mm^2)	1×2.5mm^2 or 2×1.5mm^2
Tightening torque	0.8Nm
Dimensions	90x18x64mm
Weight	70g
Standards	EN 61812-1,IEC 60669-2-3,IEC60947-5-1

Wiring Diagram

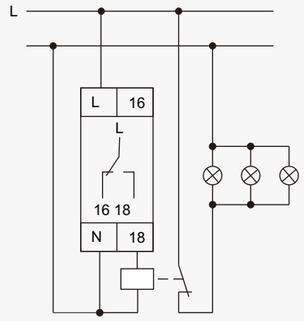


Direct connection of emergency lights (I < 16A)



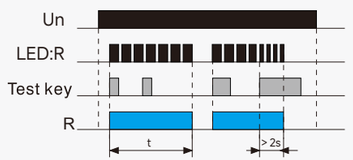
Emergency lights with integrated recharchable power cells

Switching emergency lights with contactor (I > 16A)



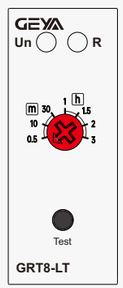
Emergency lights with integrated recharchable power cells

Functions Diagram

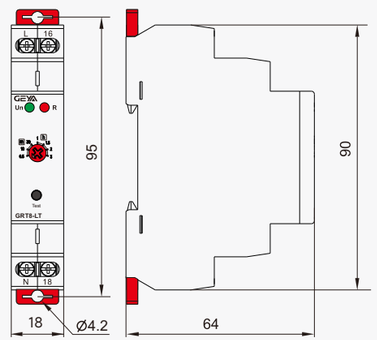


The supply voltage Un(L-N) must be constantly to the device (green LED Un illuminated). Pressing the integrated test key forces the output relay R to switch into on-position (red LED illuminated), so the emergency ligths are disconnected from the mains and the set interval t begins (red LED R flashes). After the interval t has expired (red LED R not illuminated), the output relay R switches into off-position and the emergency lights are reconnected to the mains. During the interval, the test key can be operated any number of times. Prolonged pressure on the test key (>2s) aborts the running test interval (red LED R flashes fast) and a further cycle can be started.

Panel Diagram



Dimensions(mm)



GRV8-01/02 Monitoring voltage relay



Applications

- Protect electrical equipment and motors from over-voltage and under-voltage.
- Normal/emergency power supply switching.

Feature

- Controls its own supply voltage(True RMS measurement)
- User may select operation mode through knob.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRV8 – □ /□

- □ : Rated control supply voltage

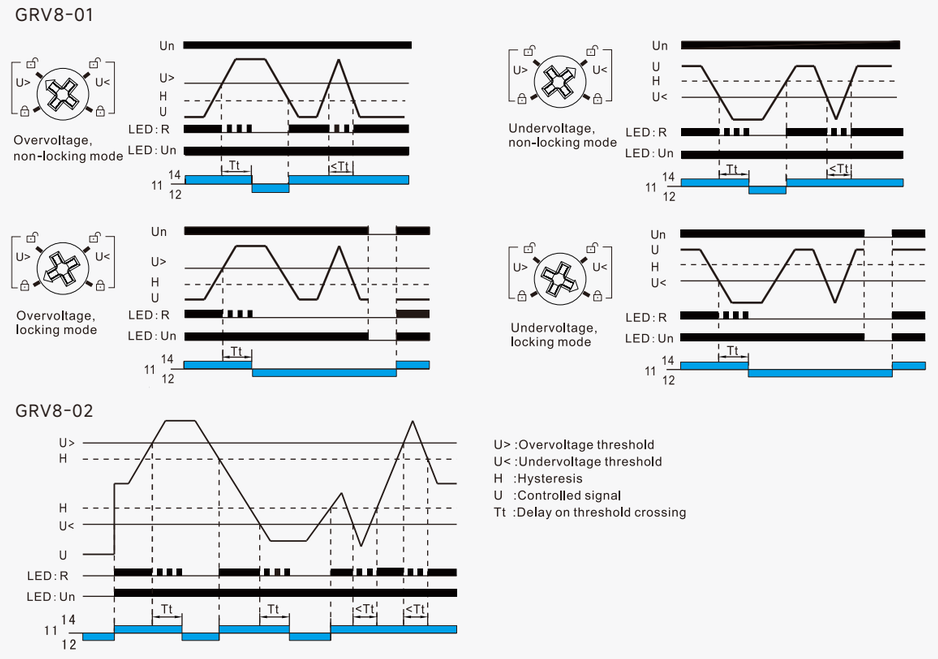
Rated supply voltage code	Rated supply voltage	Supply voltage limits	Range of adjustment
D12	DC 12V	DC 7...20V	DC 9...15V
AD48	AC/DC 24...48V	AC/DC 18...270V	AC/DC 20...80V
AD240	AC/DC 110...240V	AC/DC 18...270V	AC/DC 65...260V
A220	AC 220V	AC 160...270V	AC 180...260V

- □ : Fuction mode
  - 01:Over/Under voltage
  - 02:Overvoltage and Undervoltage
- GRV8 Series

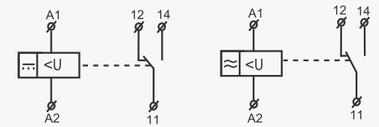
Technical parameters

	GRV8-01	GRV8-02
Function	Monitoring voltage	
Supply terminals	A1-A2	
Rated supply voltage	DC12V,AC/DC24V-48V,AC/DC110V-240V,AC220V	
Rated supply frequency	45Hz-65Hz,0	
Hysteresis	5%-20%	3% fixed
Supply indication	Green LED	
Time delay	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up	0.5s time delay	
Konb setting accuracy	10% of scale value	
Reset time	1000ms	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F， at=68°F)	
Output	1×SPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life (AC1)	$1x10^5$	
Operating temperature	-20°C to + 55°C(-4°F to 131°F)	
Storage temperature	-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max. cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90x18x64mm	
Weight	59g	
Standards	EN 60255-1,IEC60947-5-1	

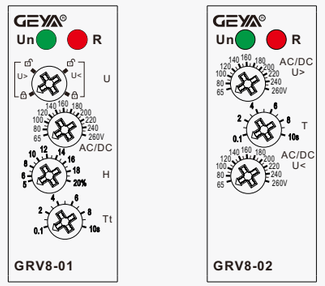
Functions Diagram



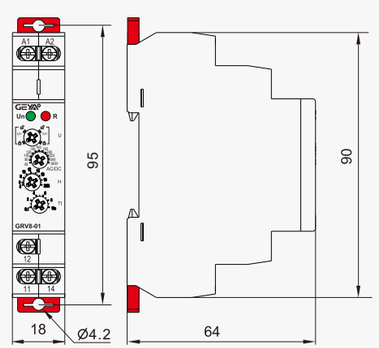
Wiring Diagram



Panel Diagram



Dimensions(mm)





Applications

- Control for connection of moving equipment(site equipment,agricultural equipent,refrigerated trucks).
- Control for protection of persons and equipment against the consequences of reverse running.
- Normal/emergency power supply switching.
- Protection against the risk of a driving load(phase failure).

Feature

- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRV8 – □ /□

- □: Rated control supply voltage
  - M460:220-230-240-380-400-415-440-460VAC(P-P)
  - M265:127-132-138-220-230-240-254-265VAC(P-N)
- □: Fuction mode:Table1
- GRV8 Series

Table1

Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure
03	—	—	—	—	●	●
04	2%...20%	-20%...2%	—	0.1s...10s	●	●
05	2%...20%	-20%...2%	8%	0.1s...10s	●	●
06	2%...20%	-20%...2%	5%...15%	2s	●	●
07	—	—	5%...15%	0.1s...10s	●	●
08	15%	-15%	8%	2s	●	●

Note:●the function is available

Technical parameters

	M460	M265
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2	L1-N
Voltage range	220-230-240-380-400-415-440-460(P-P)	127-132-138-220-230-240-254-265(P-N)
Rated supply frequency	45Hz-65Hz	45Hz-65Hz
Measuring range	176V-552V	101V-318V
Threshold adjustment voltage	2%-20%of Un selected	
Adjustment of asymmetry threshold	5%-15%	
Hysteresis	2%	
Supply indication	Green LED	
Time delay	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up	0.5s time delay	
Konb setting accuracy	10% of scale value	
Reset time	1000ms	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F，at=68°F)	
Output	1×SPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	

Functions Diagram

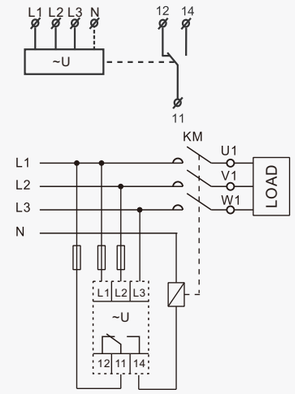
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage cathegory	III
Pollution degree	2
Max.cable size(mm^2)	solid wire max.1×2.5or 2×1.5/ with sleeve max.1×2.5(AWG 12)
Dimensions	90x18x64mm
Weight	64g
Standards	EN 60255-1,IEC60947-5-1

Note:

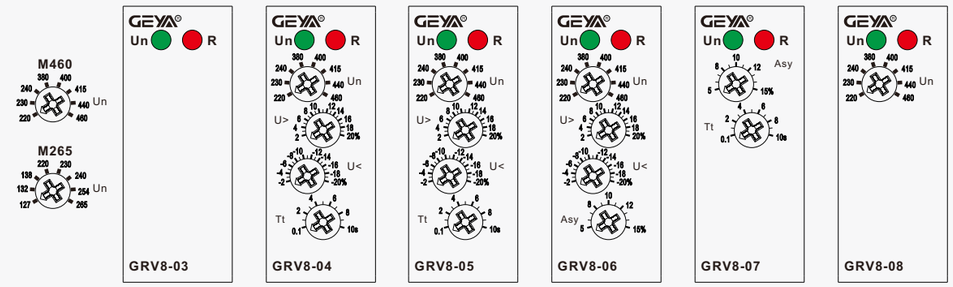
$Asy=\frac{Umax-Umin}{Uavr}\times100\%$ Umax=Max(U1,U2,U3)

$Uavr=\frac{U1+U2+U3}{3}$ Umin=Min(U1,U2,U3)

Wiring Diagram

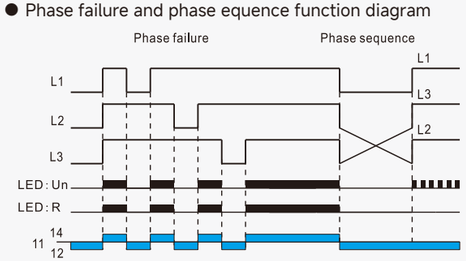


Panel Diagram

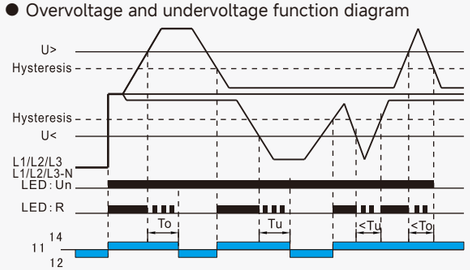


Functions Diagram

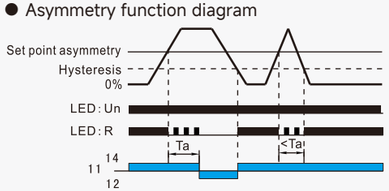
● Phase failure and phase equence function diagram



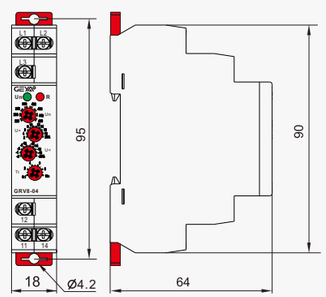
● Overvoltage and undervoltage function diagram



● Asymmetry function diagram



To: Overvoltage threshold tripping delay.
Tu: Undervoltage threshold tripping delay.
Ta: Asymmetry threshold tripping delay





Applications

- Control for connection of moving equipment(site equipment,agricultural equipent,refrigerated trucks).
- Control for protection of persons and equipment against the consequences of reverse running.
- Normal/emergency power supply switching.
- Protection against the risk of a driving load(phase failure).

Feature

- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- 2 C/O output .
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRV8 — □ /□

- □: Rated control supply voltage
  - M460:220-230-240-380-400-415-440-460VAC(P-P)
  - M265:127-132-138-220-230-240-254-265VAC(P-N)
- □: Fuction mode:Table1
- GRV8: GRV8 Series

Table1

Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure
03D	—	—	—	—	●	●
04D	2%...20%	-20%...2%	—	0.1s...10s	●	●
05D	2%...20%	-20%...2%	8%	0.1s...10s	●	●
06D	2%...20%	-20%...2%	5%...15%	2s	●	●
07D	—	—	5%...15%	0.1s...10s	●	●
08D	15%	-15%	8%	2s	●	●

Note:●the function is available

Technical parameters

	M460	M265
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2	L1-N
Voltage range	220-230-240-380-400-415-440-460(P-P)	127-132-138-220-230-240-254-265(P-N)
Rated supply frequency	45Hz-65Hz	45Hz-65Hz
Measuring range	176V-552V	101V-318V
Threshold adjustment voltage	2%-20%of Un selected	
Adjustment of asymmetry threshold	5%-15%	
Hysteresis	2%	
Supply indication	Green LED	
Time delay	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up	0.5s time delay	
Konb setting accuracy	10% of scale value	
Reset time	1000ms	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F， at=68°F)	
Output	2×SPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	

Functions Diagram

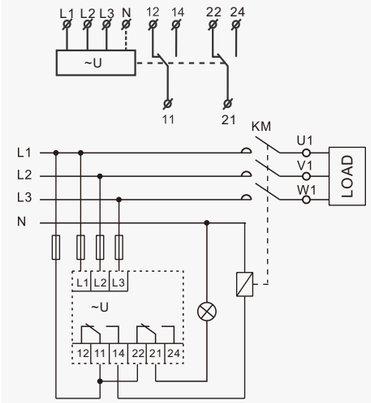
Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage cathegory	III
Pollution degree	2
Max.cable size(mm^2)	solid wire max.1×2.5or 2×1.5/ with sleeve max.1×2.5(AWG 12)
Dimensions	90x18x64mm
Weight	72g
Standards	EN 60255-1,IEC60947-5-1

Note:

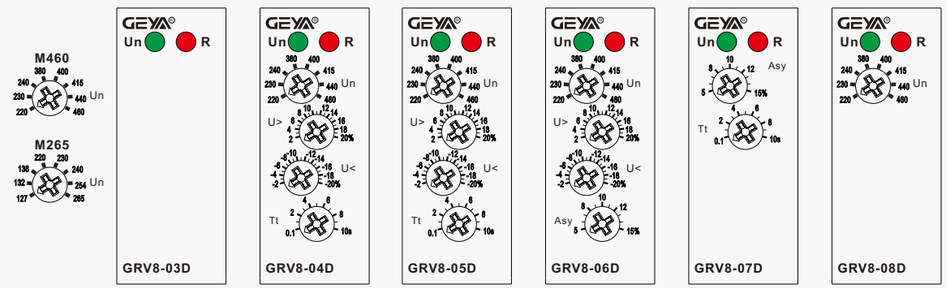
$Asy=\frac{Umax-Umin}{Uavr}\times 100\%$ Umax=Max(U1,U2,U3)

$Uavr=\frac{U1+U2+U3}{3}$ Umin=Min(U1,U2,U3)

Wiring Diagram

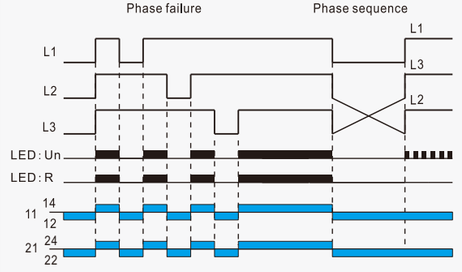


Panel Diagram

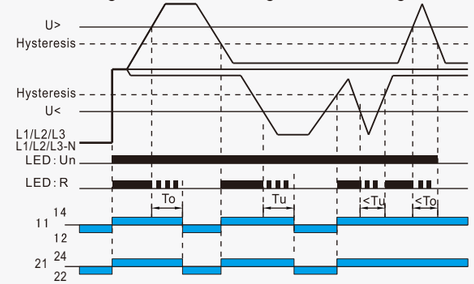


Functions Diagram

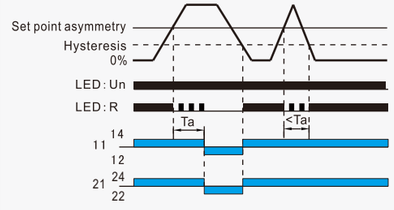
● Phase failure and phase equence function diagram



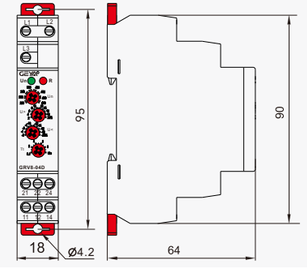
● Overvoltage and undervoltage function diagram



● Asymmetry function diagram



To: Overvoltage threshold tripping delay.
Tu: Undervoltage threshold tripping delay.
Ta: Asymmetry threshold tripping delay





Applications

- Control for connection of moving equipment(site equipment,agricultural equipent,refrigerated trucks).
- Control for protection of persons and equipment against the consequences of reverse running.
- Normal/emergency power supply switching.
- Protection against the risk of a driving load(phase failure).

Feature

- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Set the reset delay time through the knob.
- 2 C/O output .
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 2-MODULE,DIN rail mounting.

Model and connotation

GRV8 — □ /□

- Rated control supply voltage
  - M460:220-230-240-380-400-415-440-460VAC(P-P)
  - M265:127-132-138-220-230-240-254-265VAC(P-N)
- Fuction mode:Table1
- GRV8 Series

Table1

Function code	Over-voltage	Under-voltage	Asymmetry	Delay time	Phase sequence	Phase failure	Reset time
09					●	●	
10	2%...20%	-20%...2%	5%...15%	0.1s...10s	●	●	0.1s...10s

Note:●the function is available

Technical parameters

	M460	M265
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2	L1-N
Voltage range	220-230-240-380-400-415-440-460(P-P)	127-132-138-220-230-240-254-265(P-N)
Rated supply frequency	45Hz-65Hz	45Hz-65Hz
Measuring range	176V-552V	101V-318V
Threshold adjustment voltage	2%-20%of Un selected	
Adjustment of asymmetry threshold	5%-15%	
Hysteresis	2%	
Supply indication	Green LED	
Time delay	Adjustable 0.1s-10s,10%	
Measurement error	≤1%	
Run up delay at power up	Adjustable 0.1s-10s,10%	
Konb setting accuracy	10% of scale value	
Reset time	Adjustable 0.1s-10s,10%	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F，at=68°F)	
Output	2×SPDT	
Current rating	5A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	

Functions Diagram

Operating temperature	-20°C to + 55°C(-4°F to 131°F)
Storage temperature	-35°C to + 75°C(-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage cathegory	III
Pollution degree	2
Max.cable size(mm^2)	solid wire max.1×2.5or 2×1.5/ with sleeve max.1×2.5(AWG 12)
Dimensions	90x36x64mm
Weight	80g
Standards	EN 60255-1,IEC60947-5-1

Note:

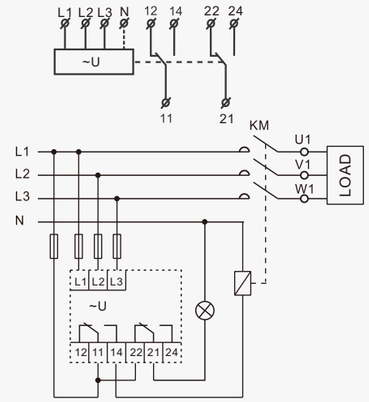
$$Asy=\frac{Umax-Umin}{Uavr}\times 100\%$$

$$Uavr=\frac{U_1+U_2+U_3}{3}$$

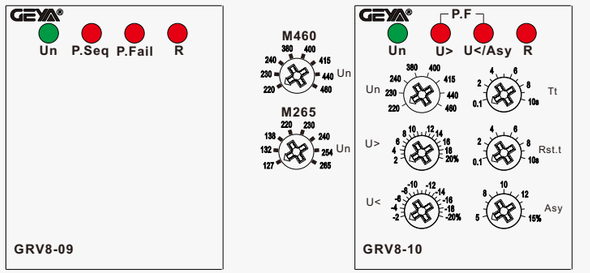
Umax=Max(U_1,U_2,U_3)

Umin=Min(U_1,U_2,U_3)

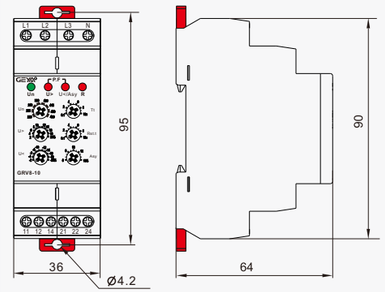
Wiring Diagram



Panel Diagram

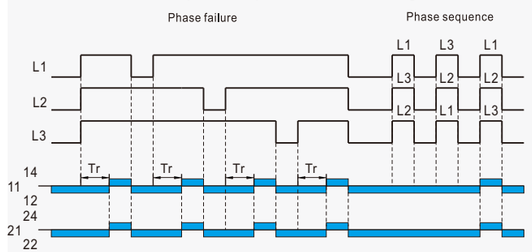


Dimensions(mm)

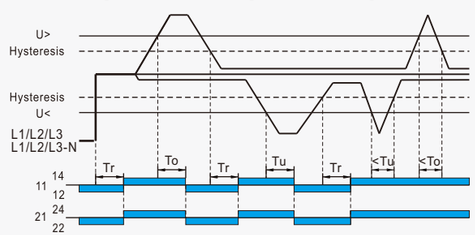


Functions Diagram

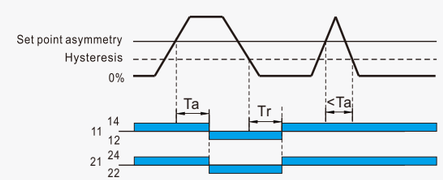
●Phase failure and phase equence function diagram



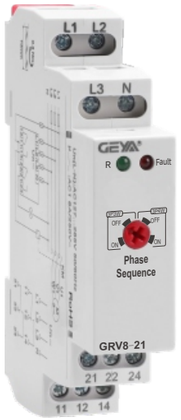
●Overvoltage and undervoltage function diagram



●Asymmetry function diagram



To:Overvoltage threshold tripping delay.
Tu:Undervoltage threshold tripping delay.
Ta:Asymmetry threshold tripping delay.
Tr:Power up delay



Applications

- Control for connection of moving equipment(site equipment, agricultural equipent,refrigerated trucks).
- Control for protection of persons and equipment against the consequences of reverse running.
- Normal/emergency power supply switching.
- Protection against the risk of a driving load(phase failure).

Feature

- Controls its own supply voltage(True RMS measurement).
- Set 8-level rated operating voltage through knob.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRV8 – □

Fuction mode:Table1

GRV8 Series

Table1

Function code	Over-voltage	Under-voltage	Asymmetry	OFF delay Phase time	sequence	Phase failure
21					○	●
22	5%...25%,OFF	OFF,-25%...-5%		0.1s...30s	●	●
23	5%...25%,OFF	OFF,-25%...-5%	8%	0.1s...30s	●	●
24	5%...25%,OFF	OFF,-25%...-5%	5%...20%,OFF	2s	●	●
25			5%...20%	0.1s...30s	●	●
26	15%	-15%	8%	2s	●	●

Note: ● the function is available
○ the function is adjustable

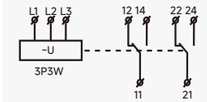
Technical parameters

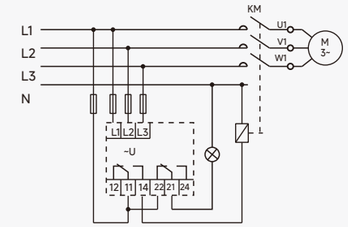
	3P3W	3P4W
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3	L1-L2-L3-N
Supply terminals	L1-L2	L1-L2
Voltage range	380-400-415-440-480(P-P)	220-230-240-254-277(P-N)
Rated supply frequency	45Hz-65Hz	45Hz-65Hz
Measuring range	260V-600V	150V-350V
Threshold adjustment voltage	5%-25%of Un selected or OFF	
Adjustment threshold	5%-20% or OFF	
Hysteresis	2%	
Phase failure value	70% of Un selected	
OFF delay time	Adjustable 0.1s-30s,10%	
Measurement error	≤1%	
Delay at powerup	0.5s	
Knob setting accuracy	10% of scale value	
Output indication	Green LED	
Fault indication	Red LED	
Reset time	1s	
Output	2×SPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F,at=68°F)	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	

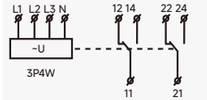
Functions Diagram

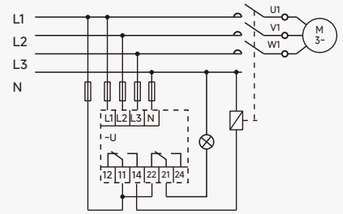
Operating temperature	-20°C to + 55°C
Storage temperature	-35°C to + 75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/ IP20 terminals
Operating position	any
Overvoltage cathegory	III
Pollution degree	2
Max.cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Tightening torque	0.4Nm
Dimensions	90x18x64mm
Weight	80g
Standards	EN 60255-1, IEC60947-5-1

Wiring Diagram

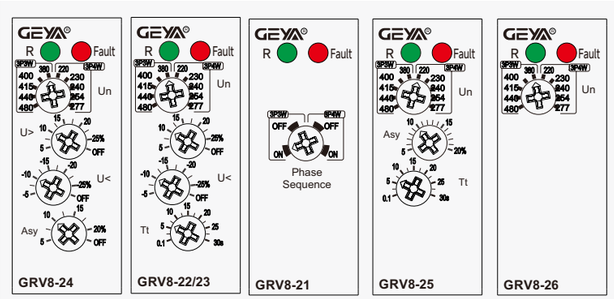




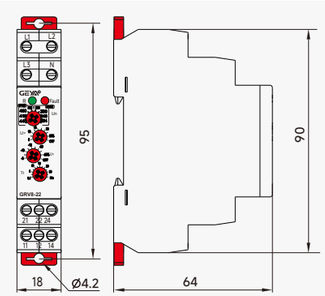




Panel Diagram

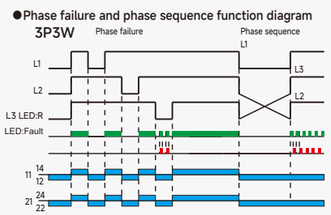


Dimensions(mm)

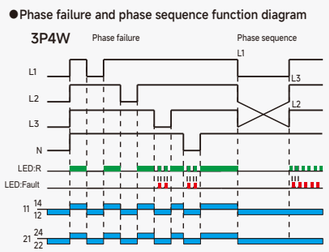


Functions Diagram

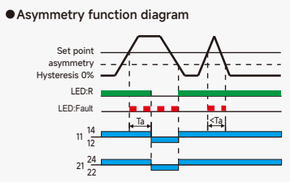
●Phase failure and phase sequence function diagram



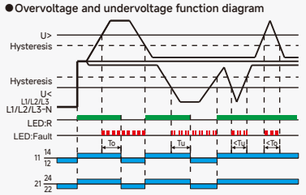
●Phase failure and phase sequence function diagram



●Asymmetry function diagram



●Overvoltage and undervoltage function diagram



To: Over voltage threshold tripping delay.
Tu: Under voltage threshold tripping delay.
Ta: Asymmetry threshold tripping delay.

NOTE:

1. In case of phase failure at power supply terminals (L1 and L2), the function LED would not make indication.
2. If the Un switch position is changed while the device is working, the two LEDs will flash, but the product continues to work normally with the voltage selected at the time of energization preceding the change of position. The LEDs will return to their normal state if the switch is returned to the original position selected prior to the last energization.



Applications

- Control for connection of moving equipment(site equipment,agricultural equipent,refrigerated trucks).
- Control for protection of persons and equipment against the consequences of reverse running.
- Normal/emergency power supply switching.
- Protection against the risk of a driving load(phase failure).

Feature

- Controls its own supply voltage(True RMS measurement).
- LCD display.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- 2-MODULE,DIN rail mounting.

Model and connotation

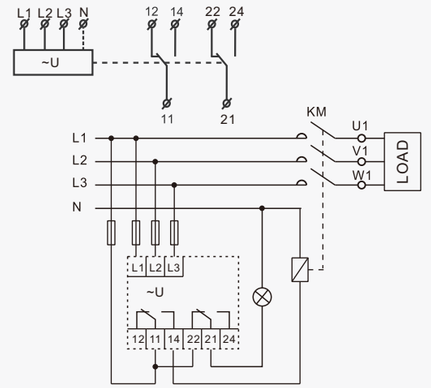
GRV8 – S /□

- Monitoring voltage category — N:phase to neutral; P:phase to phase
- LCD display
- GRV8 Series

Technical parameters

	GRV8-SN	GRV8-SP
Function	Monitoring 3-phase voltage	
Monitoring terminals	L1-L2-L3-N	L1-L2-L3
Supply voltage limits	70V-400V	130V-650V
Rated supply frequency	45Hz-65Hz	45Hz-65Hz
Voltage hysteresis	2% Un	2% Un
Measuring range	80V-350V	150V-600V
Measurement error	≤1%	
Phase failure	50% Un	
Start-reset delay time	0.3-30s	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F， at=68°F)	
Output	2×SPDT	
Current rating	5A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Operating temperature	-20°C to + 55°C(-4°F to 131°F)	
Storage temperature	-35°C to + 75°C(-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max.cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90x36x64mm	
Weight	90g	
Standards	EN 60255-1, IEC60947-5-1	

Wiring Diagram

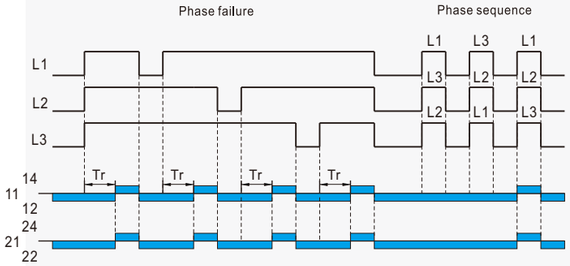


Parameters		Setting range	Step	Factory default	Remarks
Rated voltage(Un)		127-132-138-220-230-240-254-265(P-N)		220V	GRV8-SN
		220-230-240-380-400-415-440-460(P-P)		380V	GRV8-SP
Over voltage	Operation value	OFF-(Un+1)...350	1V	253V	GRV8-SN
		OFF-(Un+1)...600	1V	437V	GRV8-SP
	Delay time	0.1...20s	0.1s	2s	
Under voltage	Operation value	80...(Un-1)-OFF	1V	187V	GRV8-SN
		150...(Un-1)-OFF	1V	323V	GRV8-SP
	Delay time	0.1...20s	0.1s	2s	
Asymmetry	Operation value	OFF-5%...20%	1%	8%	
	Delay time	0.1...20s	0.1s	2s	
Phase sequence protection		ON-OFF		ON	
Start-reset delay time		0.3...30s	0.1s	0.3s	
Auto-reset		ON-OFF		ON	

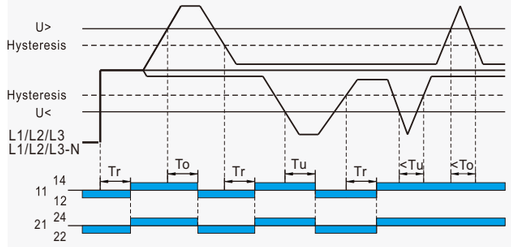
Note: "ON"means activating protection function,and"OFF"means inactivating protection function.

Functions Diagram

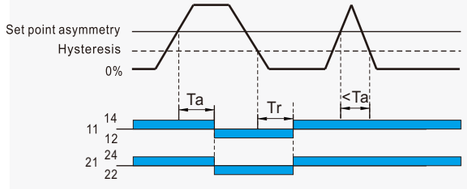
● Phase failure and phase equence function diagram



● Overvoltage and undervoltage function diagram

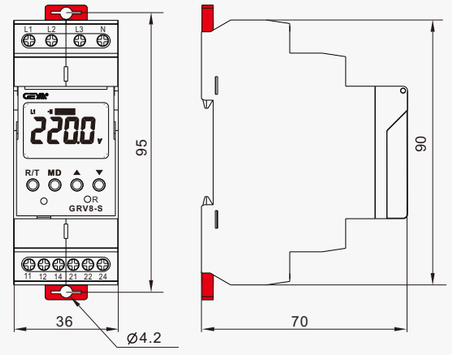


● Asymmetry function diagram



To:Overvoltage threshold tripping delay.
Tu:Undervoltage threshold tripping delay.
Ta:Asymmetry threshold tripping delay.
Tr:Power up delay

Dimensions(mm)





Applications

- Control for connection of moving equipment(site equipment, agricultural equipent,refrigerated trucks).
- Normal/emergency power supply switching.

Feature

- Controls its own supply voltage(True RMS measurement).
- LCD display.
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- 2-MODULE,DIN rail mounting.

Model and connotation

GRV8 — SV

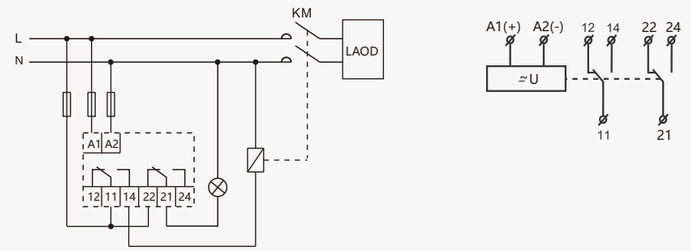
SV — LCD display

GRV8 — GRV8 Series

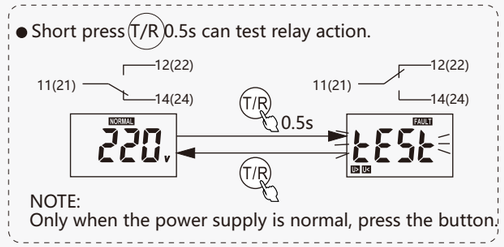
Technical parameters

	GRV8-SV
Function	Over voltage, under voltage
Rated supply voltage	AC/DC110V..240V
Rated supply frequency	45~65Hz0Hz
Operation voltage range	50V~350V
Burden	AC max.3VA
Over voltage operation value	65V~300VOFF
Under voltage operation value	OFF.65V~300V
Over/under voltage action delay	0.1s~20s
Power-up delay	0.5s~300s
Reset time	0.5s~300s
Measurement error	≤1%
Output	2xSPDT
Current rating	8A/AC1
Switching voltage	250VAC/24VDC
Electrical life(AC1)	$1x10^7$
Mechanical life	$1x10^5$
Operating temperature	-20°C~+60%°C
Storage temperature	-35°C~+75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max.cable size(mm^2)	solid wire max.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)
Tightening torque	0.4Nm
Dimensions	90x 36x 68mm
Weight	100g
Standards	EN 60255-1 IEC60947-5-1

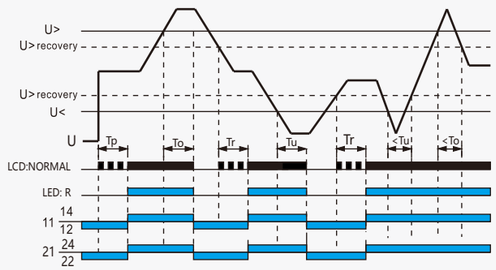
Wiring Diagram



Operation description

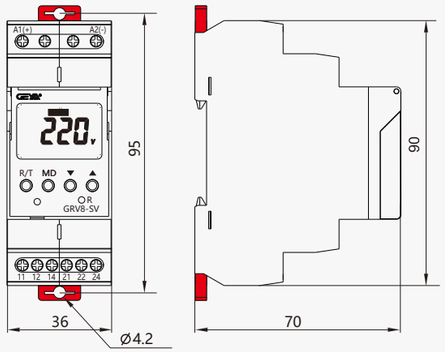


Functions Diagram



To: Overvoltage tripping delay.
Tu: Undervoltage tripping delay.
Ta: Reset delay.
Tr: Power up delay

Dimensions(mm)





Applications

- Used for overvoltage and undervoltage protection of electrical equipment. Monitor weak load carrying capacity or voltage signals that require
- isolation.
  Normal/emergency power switch.
  Prevent phase failure of dynamic loads.

Feature

- True RMS measurement with high measurement accuracy.
- Overvoltage and undervoltage selection monitoring or simultaneous
- monitoring.
- The output contact is normally open or normally closed and can be set.
- Two sets of contact outputs, which can act separately and independently.
- 36mm wide, 35mm clamp rail installation.

Model and connotation

GRV8 – VW /□

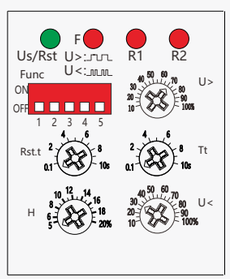
- □: Monitoring voltage category — 1:AC/DC1V-100V 50/60Hz; 2:AC/DC15V-600V 50/60Hz
- VW: Single phase isolation monitoring type
- GRV8: GRV8 Series

Technical parameters

	GRV8-VW2
Function	Monitoring voltage
supply terminals	A1,A2
Rated supply voltage	AC/DC24-240V 50/60Hz
Monitoring voltage input terminal	V1,V2,V3,C
Monitoring voltage range	AC/DC15V-600V 50/60Hz
Rated insulation voltage	600V
Hysteresis	Only over or under:5%-20%adjustable;Over and under:fixed 3%
Supply/Reset indication	Green LED
Measurement error	≤2%
Time delay	0.1s~10s
Power up delay/Reset time	0.1s~10s
Konb setting accuracy	10%
Output	2xSPDT
Current rating	5A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^6$
Electrical life(AC1)	$5x10^4$
Operating temperature	-20°C to +55°C (-4°F to 131°F)
Storage temperature	-35°C to +75°C (-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm^2)	solid wire max.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x 36x 70mm
Weight	100g
Standards	EN 60255-1 IEC60947-5-1

Model	Input terminal	Input monitoring voltage range	Input resistance
GRV8-VW1	V1-C	AC/DC1V-10V50/60Hz	22kΩ
	V2-C	AC/DC5V-50V50/60Hz	110kΩ
	V3-C	AC/DC10V-100V 50/60Hz	220kΩ
GRV8-VW2	V1-C	AC/DC15V-150V50/60Hz	500kΩ
	V2-C	AC/DC30V-300V50/60Hz	1MΩ
	V3-C	AC/DC60V-600V50/60Hz	2MΩ

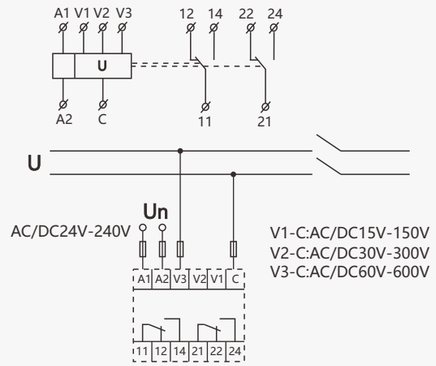
Panel Diagram



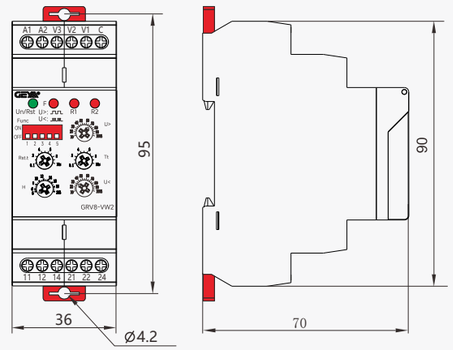
Switch Settings

SW1	ON	Over or under
	OFF	Over and under
SW2	ON	Only over(Valid when SW1=ON)
	OFF	Only under(Valid when SW1=ON)
SW3	ON	Locked after over/under protect
	OFF	Auto-reset after over/under protect
SW4	ON	11-14/21-14 Normal closed
	OFF	11-14/21-14 Normal open
Sw5	ON	Relay 1 and relay 2 operate simultaneously (This mode is defaulted when SW1=ON)
	OFF	Relay 1 and relay 2 operate separately Valid when SW1=OFF,R1(11,12,14)-Over,R2(21,22,24)-Under

Wiring Diagram



Dimensions(mm)





Applications

- Product is used for highly fluctuating inductive load such as Air Conditioning system in Industrial and commercial establishments. It protects the system equipment and load from sudden under voltage fuctuations.

Feature

- Controls its own supply voltage(True RMS measurement).
- Measuring frequency range:45Hz-65Hz.
- Voltage measurement accuracy<1%.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

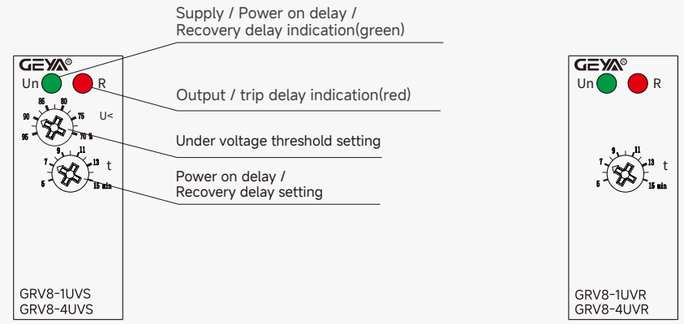
GRV8 – □ UV □ / □

- Rated control supply voltage Un
  - A220:AC220V
  - A230:AC230V
  - A240:AC240V
- Under voltage threshold
  - R:fixed 75% of Un
  - S:adjustable:70%-95% of Un
- Function: Under Voltage
- Phase
  - 1:single phase
  - 4:three phase with neutral
- GRV8 Series

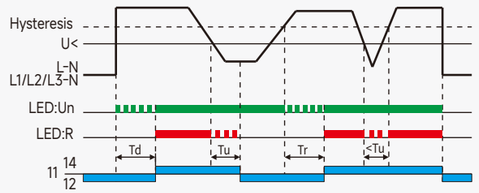
Technical parameters

	GRV8-1UV	GRV8-4UV
Function	Under voltage	
Monitoring terminials	L-N	L1-L2-L3-N
supply terminals	L-N	L1-N
Rated supply voltage(Un)	220V/230V/240V	
Rated supply frequency	45Hz-65Hz	
Under voltage threshold	R:fixed 75% of Un; S:70%-95%of Un	
Trip delay time	1s	
Hysteresis	5V	
Measurement error	≤1%	
Power on delay time	Adjustable: 5min-15min	
Recovery delay time	Adjustable: 5min-15min	
Konb setting accuracy	10% of scale value	
Output indication	Green LED	
Output	Red LED	
Current rating	1 X SPDT	
Switching voltage	10A/AC1	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max. cable size(mm^2)	solid wire max.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)	
Tightening torque	0.8Nm	
Dimensions	90x 18x 64mm	
Weight	63g,65g	
Standards	EN 60255-1 IEC60947-5-1	

Panel Diagram

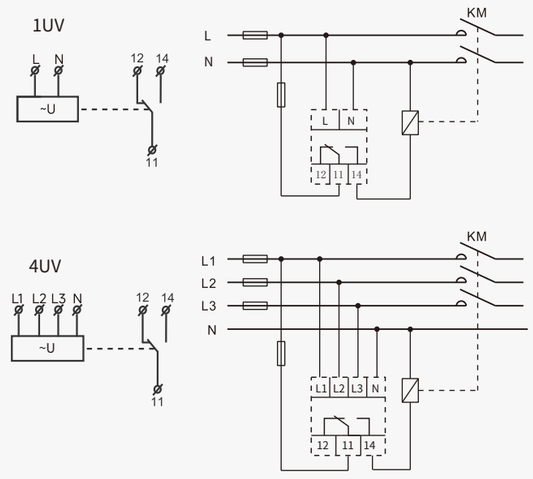


Functions Diagram

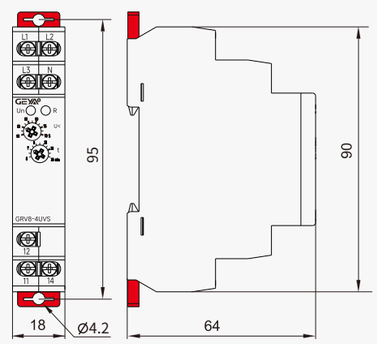


Td:Power on delay
Tu:Undervoltage threshold tripping delay
Tr:Undervoltage recovery delay
Td = Tr

Wiring Diagram



Dimensions(mm)





Applications

- Serves for monitoring of heating in rail-switches, heating cables, consumption of one-phase motors, indicates current flow.

Feature

- Adjustable delay 0.1 - 10 s to eliminate short current peaks.
- Flexible adjustment by potentiometer, choice of 6 ranges:AC 0.05-0.5A; AC 0.1-1A; AC 0.2-2A; AC 0.5-5A; AC 0.8-8A; AC 1.6-16A
- Power up delay.
- Possible to use for current scanning from current transformer.
- Universal supply AC/DC 24 - 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRI8 – □ /□

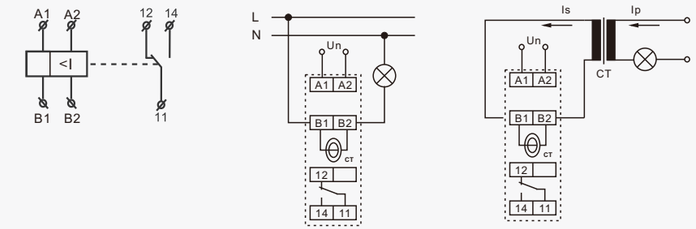
- Current range(AC)
  - 0.5:0.05-0.5A 1:0.1-1A 2:0.2-2A
  - 5:0.5-5A 8:0.8-8A 16:1.6-16A
- Design number
  - 01-Overcurrent
  - 02-Undercurrent
  - 03-Overcurrent or Undercurrent
  - 04-Over/Undercurrent in windows mode
- GRI8 Series

Technical parameters

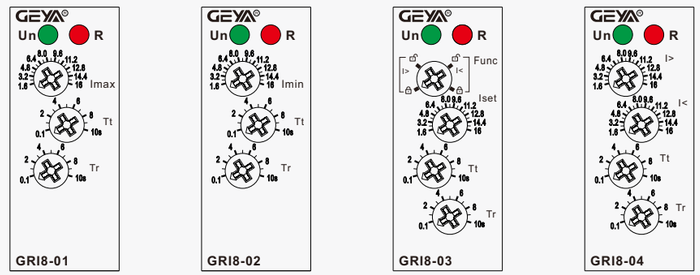
	GRI8-01	GRI8-02	GRI8-03	GRI8-04		
Function	Over current	Under current	Over Under current	Over/Under current		
supply terminals	A1-A2					
Rated supply voltage	AC/DC 24V-240V					
Rated supply frequency	50/60Hz,0					
Burden	max. 2VA					
Supply voltage tolerance	-15%;+10%					
Current range	0.05A-0.5A	0.1A-1A	0.2A-2A	0.5A-5A	0.8A-8A	1.6A-16A
Current frequency	AC 50Hz					
Max. operating current	2A	2A	4A	8A	12A	22A
Current adjustment	potentiometer					
Time delay	Adjustable: 0.1-10s					
Power up delay	Adjustable: 0.1-10s					
Supply indication	Green LED					
Setting accuracy	10%					
Repeat accuracy	≤1%					
Temperature dependancy	<0.1%/°C					
Limit values tolerance	5%(10% for 0.05-0.5A range)					
Hysteresis	5%					
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F，at=68°F)					
Output	1 X SPDT					
Current rating	10A/AC1					
Switching voltage	250VAC/24VDC					
Min. breaking capacity DC	500mW					
Output indication	Red LED					
Mechanical life	$1x10^7$					
Electrical life(AC1)	$1x10^5$					
Operating temperature	-20°C to +55°C（-4°F to 131°F）					
Storage temperature	-35°C to +75°C（-22°F to 158°F）					
Mounting/DIN rail	Din rail EN/IEC 60715					
Protection degree	IP40 for front panel/IP20 terminals					
Operating position	any					
Overvoltage category	III					
Pollution degree	2					

Max. cable size(mm^2)	solid wire max.1x2,5or 2x1,5/with sleeve max.1x2.5(AWG 12)
Dimensions	90x 18x 64mm
Weight	62g
Standards	EN 60255-1

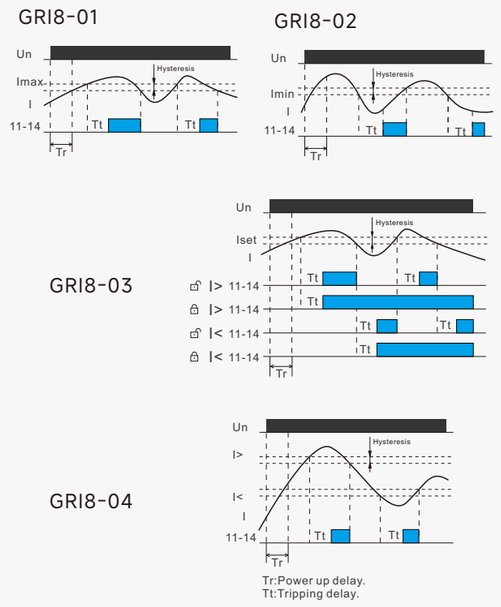
Wiring Diagram



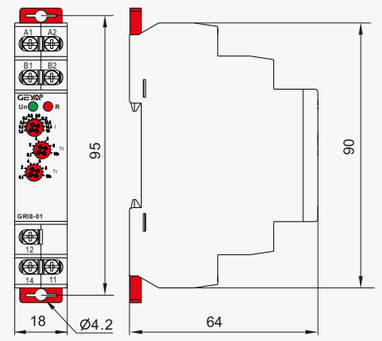
Panel Diagram



Functions Diagram



Dimensions(mm)





Applications

- Serves for monitoring of heating in rail-switches, heating cables, consumption of one-phase motors, indicates current flow.

Feature

- Through center design, no need to disconnect the current circuit, through center installation is convenient to use.
- Over / under current monitoring mode can be set by jumper.
- With AC and DC universal testing specifications optional.
- Isolation current transformer is adopted, and external current transformer can be connected to expand the monitoring current range.
- Universal supply AC/DC 24 - 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

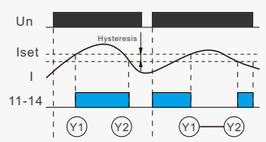
GRI8 – 05 /□

- □: Monitoring current category — A:AC monitoring; B:AC/DC monitoring
- 05: Design number
- GRI8: GRI8 Series

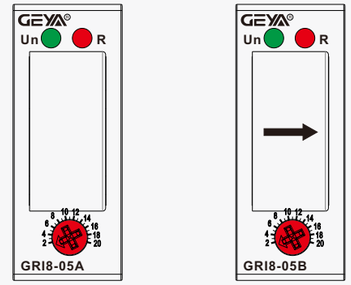
Technical parameters

	GRI8-05A	GRI8-05B
Function	AC measurement	AC/DC measurement
Supply terminals	A1,A2	
Rated supply voltage	AC/DC24-240V	
Rated supply frequency	50/60Hz,0	
Burden	max 1.5VA	
Supply voltage tolerance	-15%;+10%	
Current range	2A-20A	2A-20A
Current frequency	AC 50Hz	AC 50Hz ,DC
Setting accuracy	Potentiometer	
Supply indication	Green LED	
Setting accuracy	10%	
Hysteresis	5%	
Output	1xSPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max.cable size(mm^2)	$1×2.5mm^2$ or $2×1.5mm^2$ 0.8N·m	
Dimensions	90x 18x 64mm	
Weight	64g	
Standards	EN 60255-1	

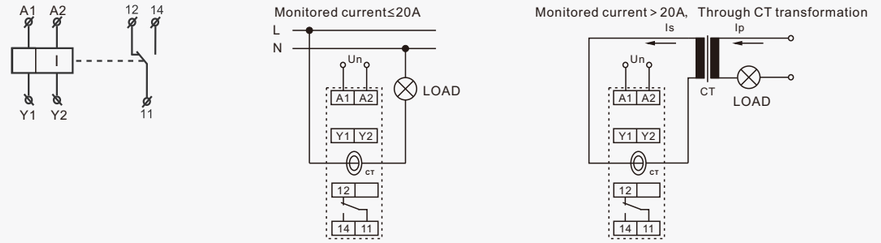
Functions Diagram



Panel Diagram

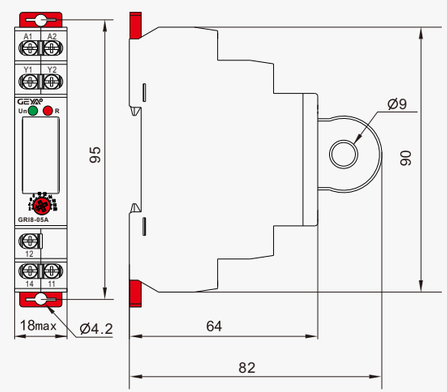


Wiring Diagram

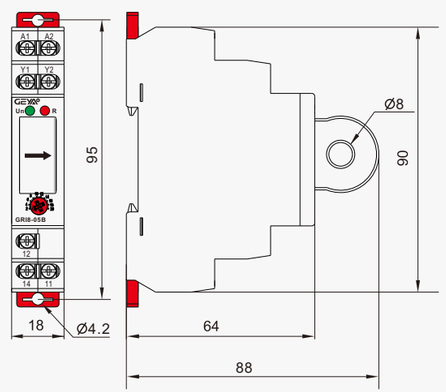


Dimensions(mm)

GRT8-05A



GRT8-05B



GRI8-06 Current monitoring relay(straight-through)



Applications

- Serves for monitoring of heating in rail-switches, heating cables, consumption of one-phase motors, indicates current flow.

Feature

- Through center design, no need to disconnect the current circuit, through center installation is convenient to use.
- Over / under current monitoring mode can be set by knob.
- With AC and DC universal testing specifications optional.
- Isolation current transformer is adopted, and external current transformer can be connected to expand the monitoring current range.
- 2 C/O output .
- Universal supply AC/DC 24 - 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

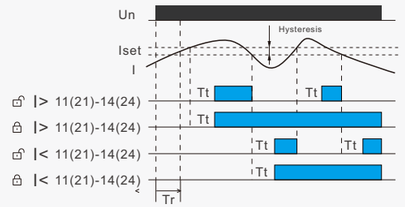
GRI8 – 06 /□

- □: Monitoring current category — A:AC monitoring; B:AC/DC monitoring
- 06: Design number
- GRI8: GRI8 Series

Technical parameters

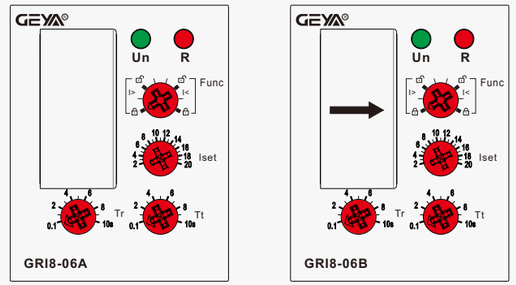
	GRI8-06A	GRI8-06B
Function	AC measurement	AC/DC measurement
Supply terminals	A1,A2	
Rated supply voltage	AC/DC24-240V	
Rated supply frequency	50/60Hz,0	
Burden	max 1.5VA	
Supply voltage tolerance	-15%;+10%	
Current range	2A-20A	2A-20A
Current frequency	AC 50Hz	AC 50Hz ,DC
Setting accuracy	Potentiometer	
Supply indication	Green LED	
Setting accuracy	10%	
Hysteresis	5%	
Output	2xSPDT	
Current rating	8A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max.cable size(mm^2)	1×2.5mm or 2×1.5mm 0.4N·m	
Dimensions	90x 36x 64mm	
Weight	90g	
Standards	EN 60255-1	

Functions Diagram

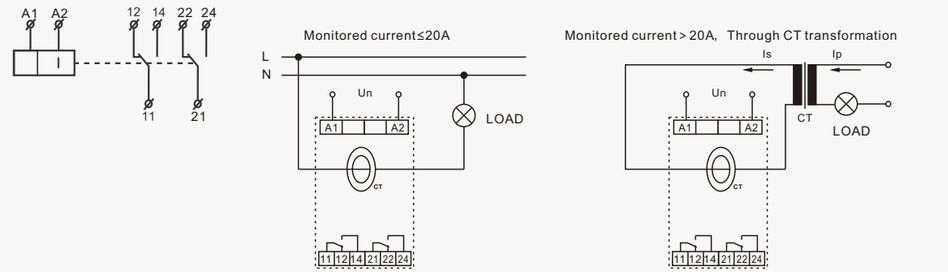


Tr:Power up delay.
Tt:Tripping delay.

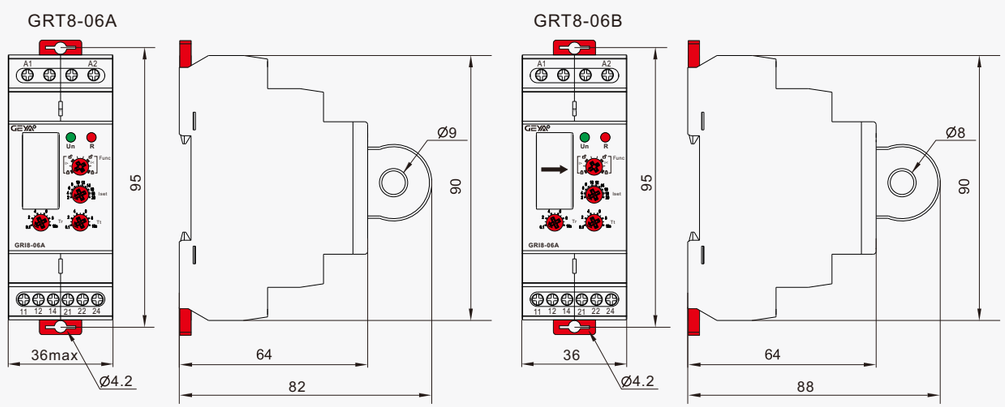
Panel Diagram



Wiring Diagram



Dimensions(mm)





Applications

- Designed for monitoring level in wellss, basins, reservoirs, tanks.....

Feature

- In one device you can choose the following configurations:
  2 level control mode
  1 level control mode
- Choice of function PUMP UP, PUMP DOWN.
- Adjustable time delay on the output (0.1 - 10s).
- Sensitivity adjustable by a potentiometer (5-100kΩ).
- Galvanically separated supply voltage AC/DC 24-240V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRL8 – □

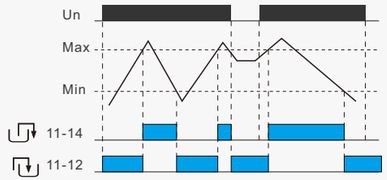
- Function mode
  - 01: 2Level contorl mode
  - 02: 2 or 1 Level contorl mode
- GRL8 Series

Technical parameters

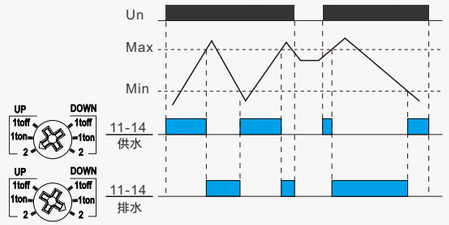
	GRL8-01	GRL8-02
Function	2 level contorl mode	2 or 1 level contorl mode
Supply terminals	A1,A2	
Voltage range	AC/DC 24-240V(50-60Hz)	
Input	max .2VA	
Supply voltage tolerance	-15%;+10%	
Sensitivity(input resistance)	adjustable in range 5 kΩ -100 kΩ	
Voltage in electrodes	max. AC 5 V	
Current in probe	AC <0.1 mA	
Time response	max. 400 ms	
Max. capacity length	800 m (sensitivity 25kΩ), 200 m (sensitivity 100 kΩ)	
Max. capacity of probe cable	400 nF (sensitivity 25kΩ), 100 nF (sensitivity 100 kΩ)	
Time delay(t)	adjustable, 0.1 -10 s	
Accuracy in setting(mechanical)	± 10 %	
Temperature coefficient	0.05%/°C,at=20°C(0.05%°F, at=68°F)	
Output	1xSPDT	
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Reset time	max.200ms	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max. cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90x 18x 64mm	
Weight	GRL8-01:61g; GRL8-02:81g	
Standards	EN 60255-1	

Functions Diagram

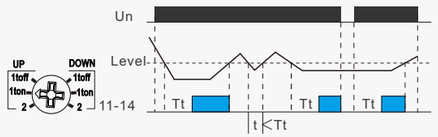
GRL8-01 2 level control



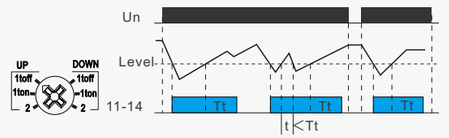
GRL8-02 2 level control(pump up/down)



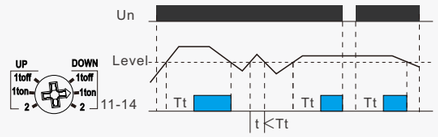
GRL8-02 1 level control(pump up t on)



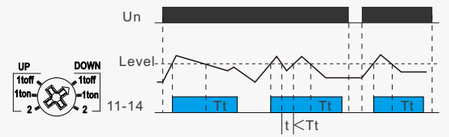
GRL8-02 1 level control(pump up t off)



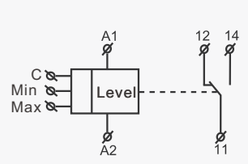
GRL8-02 1 level control(pump down t on)



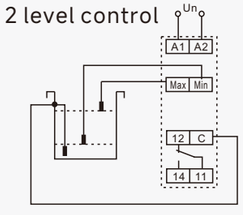
GRL8-02 1 level control(pump down t off)



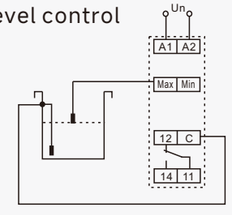
Wiring Diagram



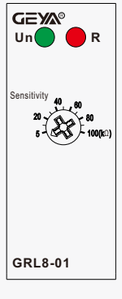
2 level control

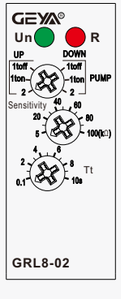


1 level control

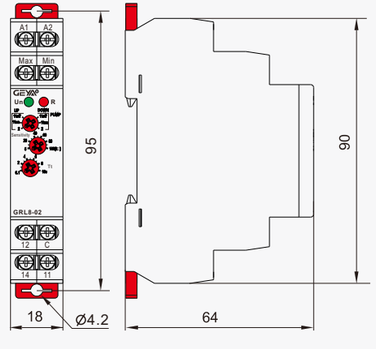


Panel Diagram





Dimensions(mm)





Applications

- The function is used to ensure the water supply by means of a water tower and a well.

Feature

- It has a button to manually start the water pump, and can also be connected to an external start button.
- When the well is short of water, it can prevent the water pump from
- running empty.
- Sensitivity adjustable by a potentiometer (5-100kΩ).
- Galvanically separated supply voltage AC/DC 24-240V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRL8 – 03 / □

- □ — Rated control supply voltage — S240:AC/DC24V-240V
- 03 — Function mode
- GRL8 — GRL8 Series

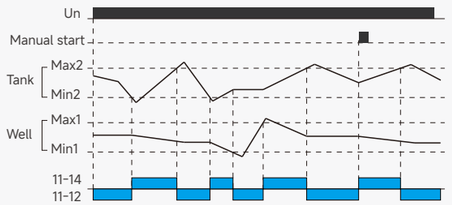
Technical parameters

	GRL8-03
Function	well-tank level contorl
Supply terminals	A1,A2
Voltage range	AC/DC 24-240V(50-60Hz)
Input	max .2VA
Supply voltage tolerance	-15%;+10%
Sensitivity(input resistance)	adjustable in range 5 kΩ -100 kΩ
Voltage in electrodes	max. AC 5 V
Current in probe	AC <0.1 mA
Time response	max. 400 ms
Max. capacity length	800 m (sensitivity 25kΩ), 200 m (sensitivity 100 kΩ)
Max. capacity of probe cable	400 nF (sensitivity 25kΩ), 100 nF (sensitivity 100 kΩ)
Supply indication	Green LED
Accuracy in setting(mechanical)	≤10 %
Output	1xSPDT
Current rating	10A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Reset time	max.200ms
Operating temperature	-20°C to +55°C (-4°F to 131°F)
Storage temperature	-35°C to +75°C (-22°F to 158°F)
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max. cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90x 18x 64mm
Weight	80g
Standards	EN 60255-1

Functions Diagram

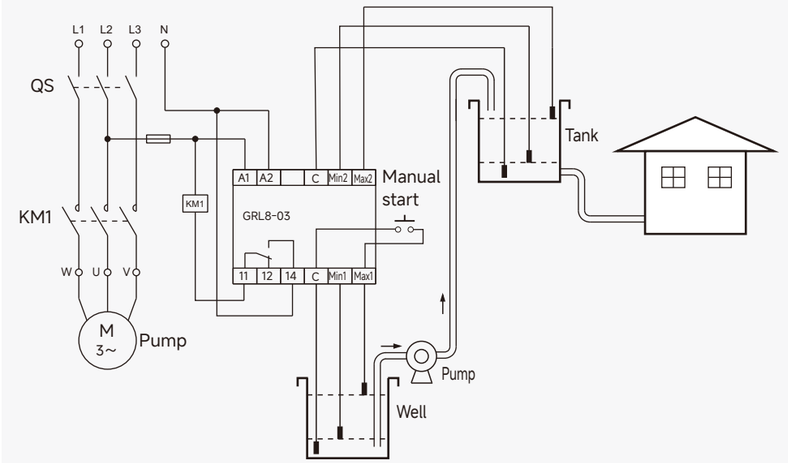
This product is used to control high water towers to pump water from low water wells. The working principle is as follows:

1. When the water level in the high water tower is lower than Min2, if the water level in the well is higher than Min1, the pump will start working until the water level in the tower reaches Max2, and the pump will stop working.
2. When the water level in the well reaches Max1, if the water level in the tower is lower than Max2, the pump will start working until the water level in the tower reaches Max2, and the pump will stop working.If this function is not required, please do not connect the Max1 probe.
3. When the water level in the water tower is between Max2 and Min2, the water pump can be started by pressing the "manual start" button until the water level in the tower reaches Max2, and the water pump stops working.

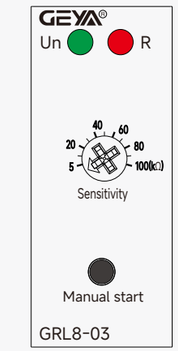


4. When the water pump is running, if the water level in the well is lower than Min1, the pump will stop working to avoid empty load to prevent damage to the pump. At this time, the red light will flash to indicate that the well is short of water.

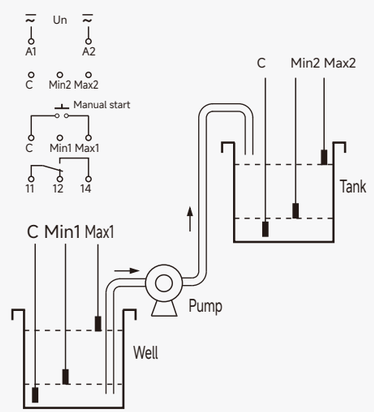
Wiring Diagram



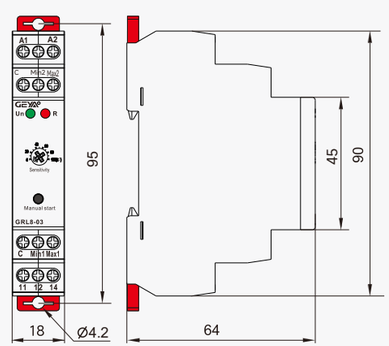
Wiring Diagram



Panel Diagram



Dimensions(mm)





Applications

- To protect against thermal overload of motors caused by high switching frequency, heavy duty starting, phase failure on one phase, bad cooling, high ambient temperature.

Feature

- 1 input for PTC-resistors or bimetal contacts.
- Broken wire detection in sensor circuit.
- 1 or 2 changeover contacts.
- Can be externally connected with a reset button.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRP8 — 01 / □

- Rated control supply voltage — S240:AC/DC24V-240V
- Function mode
- GRP8 Series

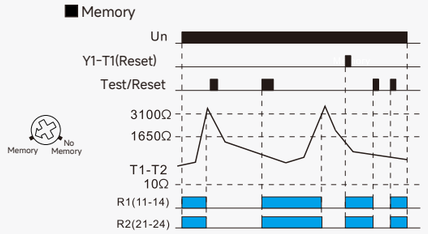
Technical parameters

	GRP8-01	GRP8-02
Function	Thermistor motor protection relay	
Supply terminals	A1,A2	
Voltage range	AC/DC 24-240V(50-60Hz)	
Burden	AC 0.7-3VA/DC 0.5-1.7W	
Supply voltage tolerance	-15%;+10%	
Supply indication	green LED	
Max cold PTC resistance	1500Ω	
Alarm setpoint	3100Ω±10%	
Return setpoint	1650Ω±10%	
Short-circuit detection	0 to 10Ω	
Output	1×SPDT	2×SPDT
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life (AC1)	$1x10^5$	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP20 terminals	
Operating position	any	
Overvoltage cathegory	III	
Pollution degree	2	
Max. cable size(mm)	1×2.5mm² or 2×1.5mm² 0.4N.m	
Dimensions	90x 18x 64mm	
Weight	62g	82g
Standards	IEC 60947-1	

Functions Diagram

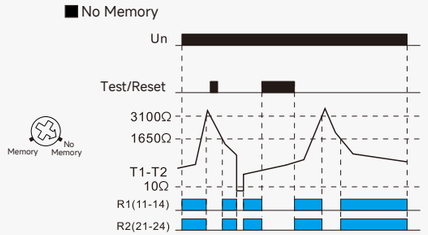
The temperature control relay can take up to 6 PTC (positive temperature coefficient) probes wired in series between terminalsT1 and T2.

■ Memory



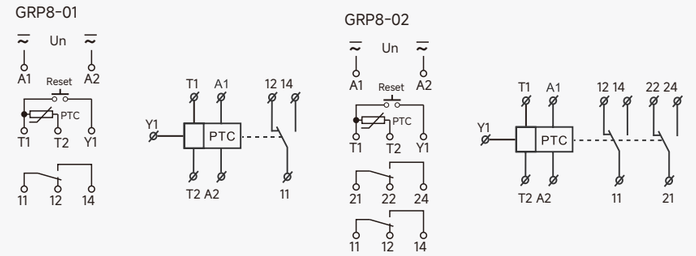
In “memory” mode, when a fault is detected, the “temperature” relay locks in the open position.
As soon as the temperature returns to the correct value, the relay can be unlocked (reset), either by pressing the “Test/Reset” button (for at least 200 ms), or by closing a volt-free contact (for at least 200 ms) between terminal Y1 and T1 (without a parallel load).
When a fault has been detected and the temperature has returned to normal, the “temperature” control relay can be unlocked (reset) by pressing the “Test/Reset” button.

■ No Memory

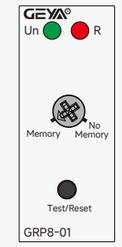


In “No Memory” mode, a fault is declared when the resistance of the temperature sensing circuit exceeds 3100 Ω.
Return to normal status is detected when the resistance is once again below 1650 Ω.
The result of the control is indicated by the status of the “temperature” output relay, NO contact 11-14 is open in the event of a fault.
Opening of the thermal sensing circuit, which has the same effect as a high temperature (resistance exceeds 3100 Ω), is therefore interpreted as a fault.
Total short-circuiting of the temperature probe(s), detected when resistance is less than 10 Ω, is treated as a fault.
LED R is on when the temperature is correct.

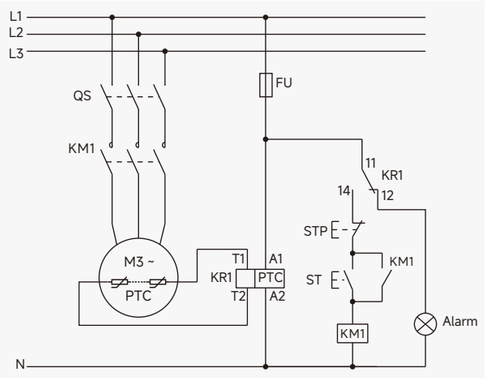
Wiring Diagram



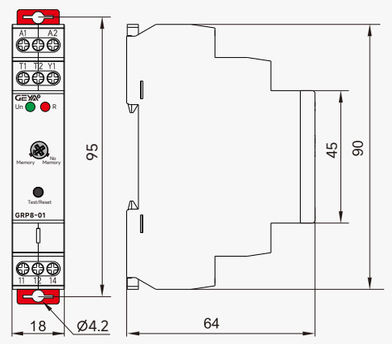
Panel Diagram



Application Examples



Dimensions(mm)



Twilight switch





PLS-01R-0.2m



PLS-02R-0.2m

Applications

- Used for switching street illumination and garden lights, illumination of advertisements, shop windows, etc.

Feature

- Serves to control lights on the basis of ambient light intensity.
- Level of ambient intensity is monitored by an external sensor and output is switched according to set level on the device.
- Control input for additional control.
- Universal supply AC 110V- 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRB8 – 01 / □

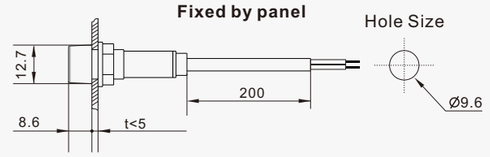
- Sensor type: A: PLS-01R-0.2m; B: PLS-02R-0.2m
- Design number
- GRB8 Series

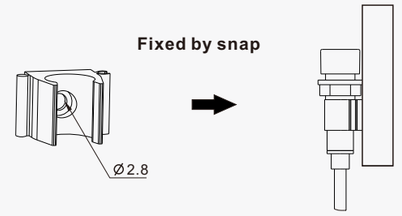
Technical parameters

	GRB8-01
Function	Twilight switch
Supply terminals	L-N
Rated supply voltage	AC110V-240V
Rated supply frequency	50-60Hz
Burden	max .2VA
Supply voltage tolerance	-15%;+10%
Illumination rang	1-100Lx
Function	ON-AUTO-OFF
Supply indication	Green LED
Tolerance sensor	±35%
Delay time	2min
Sensor cable length	max. 50 m (standard wire)
Output	1xSPST
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Operating temperature	-20°C to +55°C (-4°F to 131°F)
Storage temperature	-35°C to +75°C (-22°F to 158°F)
Mounting/DiN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max.cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90x 18x 64mm
Weight	62g
Standards	EN 60255-1

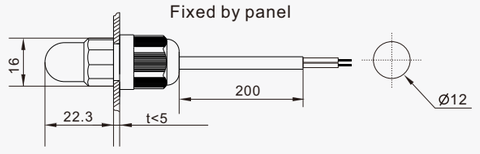
Sensor

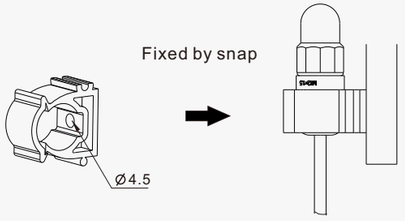
PLS-01 □



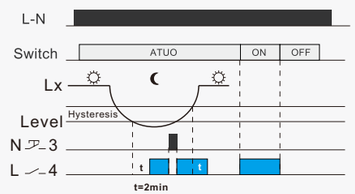


PLS-02 □

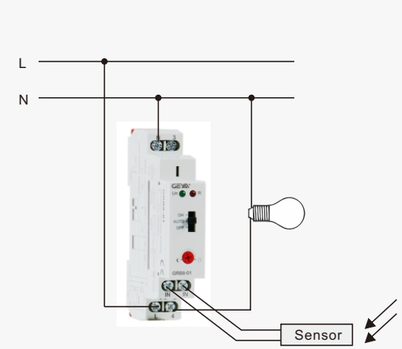




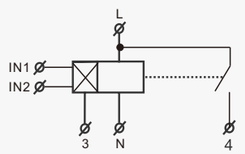
Functions Diagram

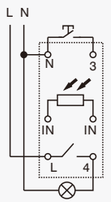


Example

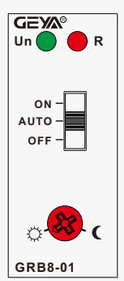


Wiring Diagram

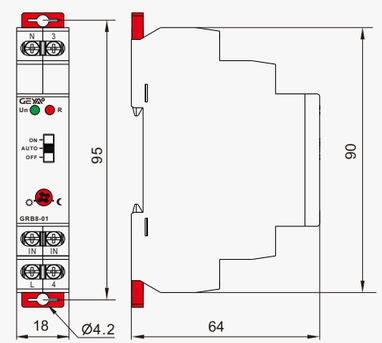




Panel Diagram



Dimensions(mm)







PLS-01D-0.2m



PLS-02D-0.2m

Applications

- Used for switching street illumination and garden lights, illumination of advertisements, shop windows, etc.

Feature

- Serves to control lights on the basis of ambient light intensity.
- Level of ambient intensity is monitored by an external sensor and output is switched according to set level on the device.
- Control input for additional control.
- Universal supply AC 110V- 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GRB8 – 02 / □

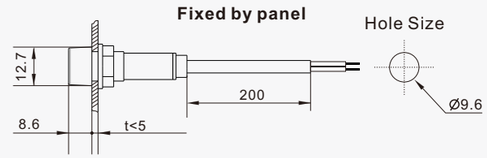
- Sensor type: A: PLS-01R-0.2m; B: PLS-02R-0.2m
- Design number
- GRB8 Series

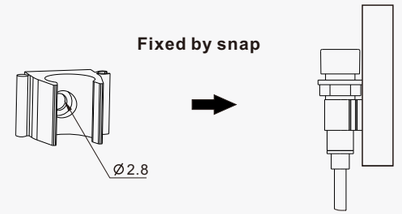
Technical parameters

	GRB8-02
Function	Twilight switch
Supply terminals	L-N
Rated supply voltage	AC110V-240V
Rated supply frequency	50-60Hz
Burden	max .2VA
Supply voltage tolerance	-15%;+10%
Illumination rang	1-1000Lx,10-10000Lx
Function	ON-x1-x10-OFF
Supply indication	Green LED
Tolerance sensor	±35%
Delay time	2min
Output	1xSPST
Current rating	16A/AC1
Switching voltage	250VAC/24VDC
Min.breaking capacity DC	500mW
Output indication	Red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Operating temperature	-20°C to +55°C (-4°F to 131°F)
Storage temperature	-35°C to +75°C (-22°F to 158°F)
Mounting/DiN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Max.cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Dimensions	90x 18x 64mm
Weight	65g
Standards	EN 60255-1

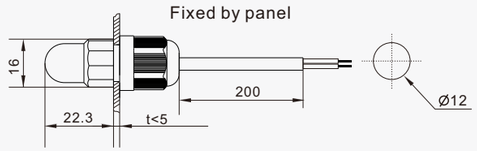
Sensor

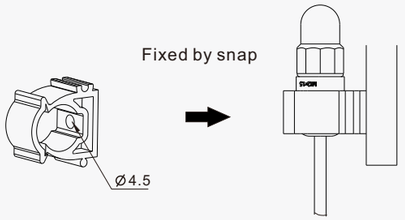
PLS-01 □



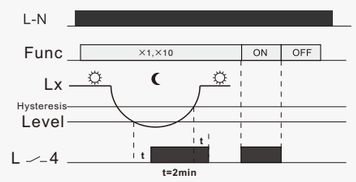


PLS-02 □

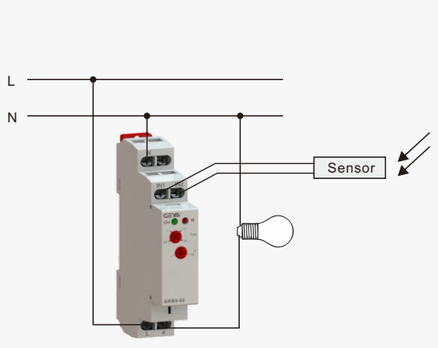




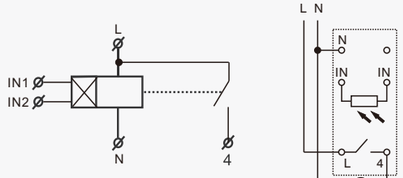
Functions Diagram



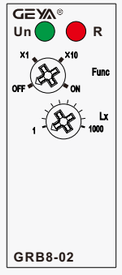
Example



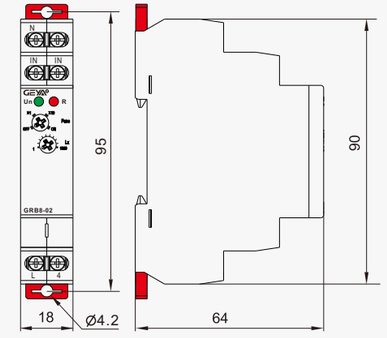
Wiring Diagram



Panel Diagram



Dimensions(mm)





Applications

- Can be used for monitoring temperature e.g. in switchboards, heating systems, cooling systems, liquids, radiators, motors,devices, open spaces, etc..

Feature

- Function of short-circuit or sensor disconnection monitoring.
- Possibility to set function “heating”/”cooling”.
- It is possible to place sensor directly on terminal block – for temperature monitoring in a switchboard or in its surroundings
- Universal supply AC/DC 24V- 240 V.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

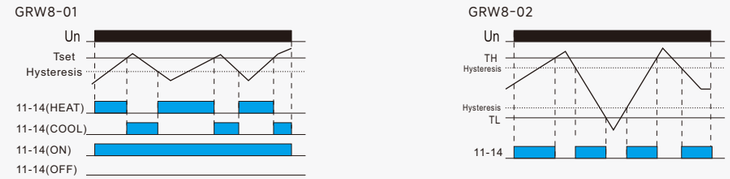
GRW8 – □

- Design number
  - 01: Temperature control
  - 02: Temperature range control
- GRW8 Series

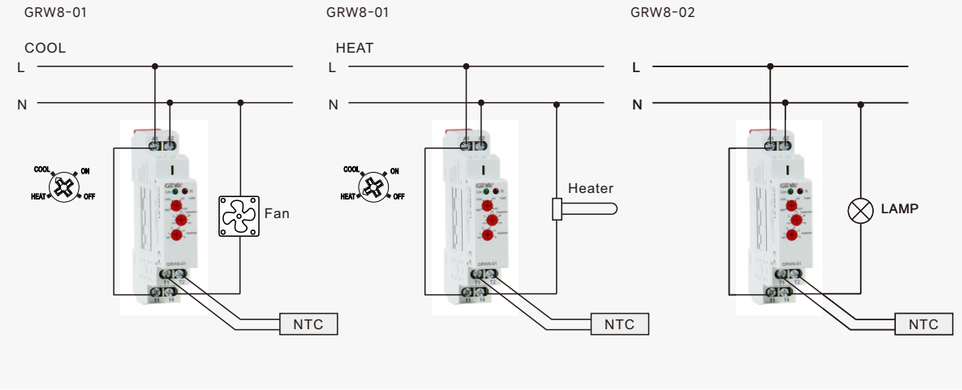
Technical parameters

	GRW8-01	GRW8-02
Function	Temperature control	Temperature range control
Supply terminals	A1-A2	
Rated supply voltage	AC/DC 24V-240V	
Rated supply frequency	50-60Hz	
Burden	max .2VA	
Supply voltage tolerance	-15%;+10%	
Temperature range	-15°C to +45°C	
Hysteresis	0.5°C to 5°C	
Supply indication	Green LED	
Measurement accuracy	±2°C	
Output	1xSPST	
Current rating	16A/AC1	
Switching voltage	250VAC/24VDC	
Min. breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DiN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Max. cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions	90x 18x 64mm	
Weight	62g	
Standards	EN 60255-1	

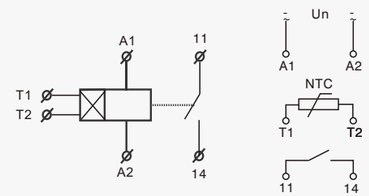
Functions Diagram



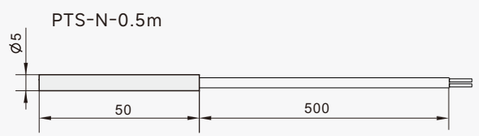
Example



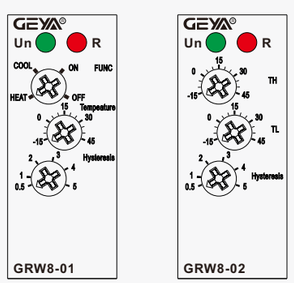
Wiring Diagram



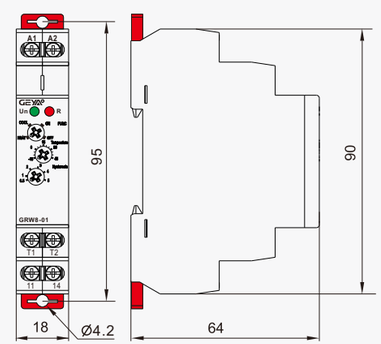
Sensor



Panel Diagram



Dimensions(mm)





Applications

- latching relay, controlled by buttons from several loacations can replacethree way switches or cross bar switchs thanks to control by buttons(un-limited number,connected inparallel by 2 wires),installation gets more transparent and faster for mounting.

Feature

- Voltage range: AC 230 V,AC/DC12V-240V clamp terminals.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

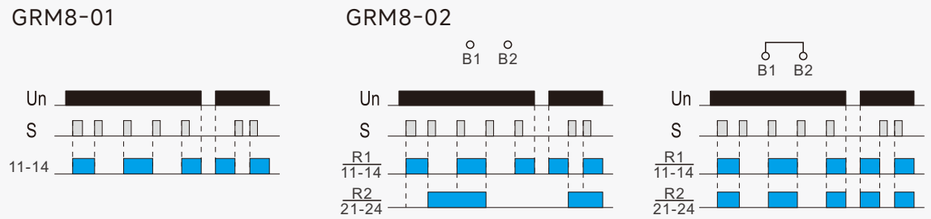
GRM8 – 01 / □

- Rated control supply voltage: A230:AC230V; W240:AC/DC12V-240V
- Number of contacts: 1:1 x SPDT; 2:2 x SPDT
- GRM8 Series

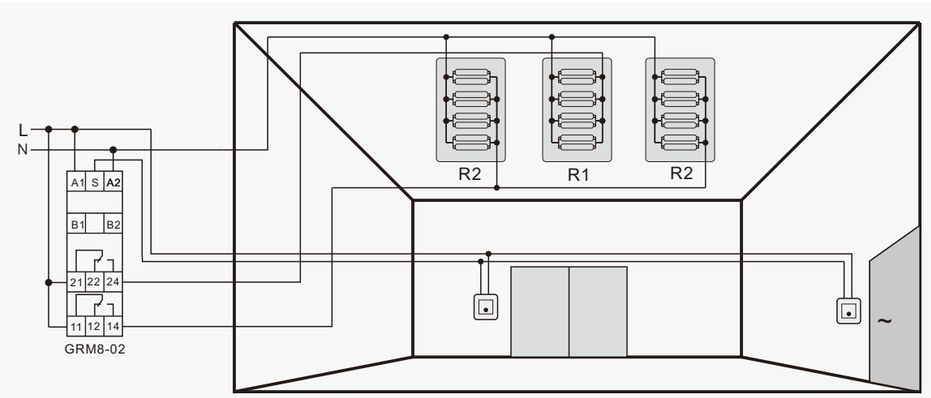
Technical parameters

		GRM8-01	GRM8-02
Supply terminals		A1-A2	
Voltage range	W240	AC/DC 12-240V(50-60Hz)	
Burden		AC 0.7-3VA/DC 0.5-1.2W	
Voltage range	A230	AC 230V(50-60Hz)	
Power input		AC max.12VA/1.3W	AC max.12VA/1.9W
Supply voltage tolerance		-15%;+10%	
Supply indication		Green LED	
Control terminals		A1-S	
Glow tubes connetions		Voltage range: AC 230V Yes(A1-S)	
Max.amount of glow lamps		230V,max.75 pcs(Measured with glow lamp 0.68mA/230V AC)	
Impulse length		min.25ms	
Temperature coefficient		0.05%/°C,at=20°C(0.05%°F，at=68°F)	
Output		1xSPDT	2xSPDT
Current rating		16A/AC1	
Switching voltage		250VAC/24VDC	
Min. breaking capacity DC		500mW	
Output indication		Red LED	
Mechanical life		$1x10^7$	
Electrical life(AC1)		$1x10^5$	
Reset time		max.200ms	
Operating temperature		-20°C to +55°C (-4°F to 131°F)	
Storage temperature		-35°C to +75°C (-22°F to 158°F)	
Mounting/DiN rail		Din rail EN/IEC 60715	
Protection degree		IP40 for front panel/IP20 terminals	
Operating position		any	
Overvoltage category		III	
Pollution degree		2	
Max. cable size(mm^2)		solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)	
Dimensions		90x 18x 64mm	
Weight		1×SPDT:W240-58g,A230-57g	
		2×SPDT:W240-79g,A230-77g	
Standards		EN 61810-1	

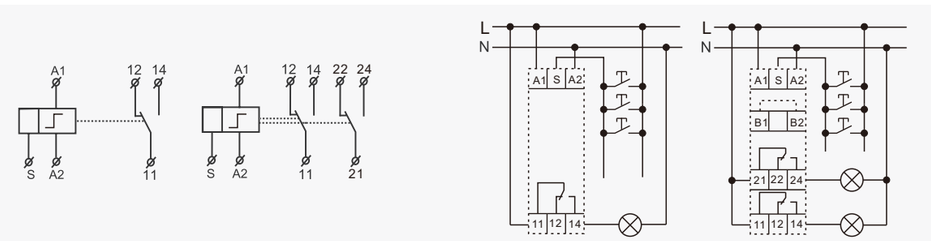
Functions Diagram



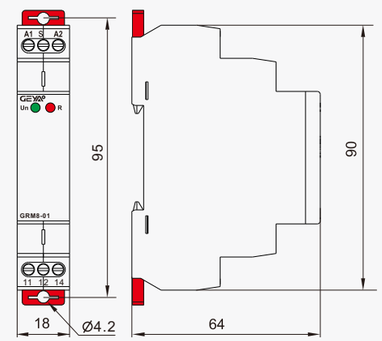
Example



Wiring Diagram



Dimensions(mm)





Applications

- Protect electrical equipment and motors from over or under frequency.
- Normal/emergency power supply switching

Feature

- Supply from monitored voltage.
- 50/60Hz can be set through wire connection.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

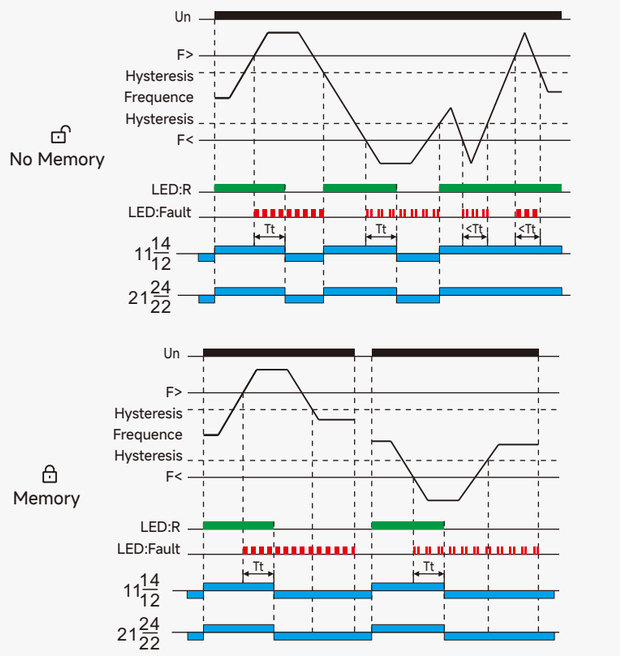
GRF – 01

- 01 — Design number
- GRF — GRF8 Series

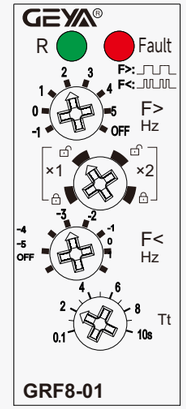
Technical parameters

	GRF8-01
Function	Monitoring frequency
Supply terminals	A1-A2
Rated supply voltage	AC120-277V
Supply voltage limits	AC100-310V
Monitoring frequency range	40Hz-70Hz
Over threshold value	-2...+10 Hz
Under threshold value	-10...+2 Hz
Hysteresis	fixed 0.3Hz
Measurement error	±0.1Hz
Time delay	Adjustable 0.1s-10s,10%
Delay at power up	0.5s
Temperature coecient	0.05%/°C,at=20°C(0.05%°F， at=68°F)
Output indication	green LED
Output	2×SPDT
Current rating	8A/AC1
Switching voltage	250VAC/24VDC
Min. breaking capacity DC	500mW
Fault indication	red LED
Mechanical life	$1x10^7$
Electrical life(AC1)	$1x10^5$
Operating temperature	-20°C to +55°C （-4°F to 131°F）
Storage temperature	-35°C to +75°C （-22°F to 158°F）
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage cathegory	III
Pollution degree	2
Max. cable size(mm2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)
Tightening torque	0.4Nm
Dimensions	90x 18x 64mm
Weight	59g
Standards	EN/IEC60947-5-1

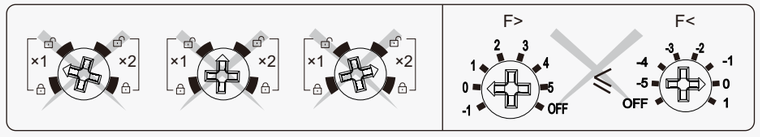
Functions Diagram



Panel Diagram

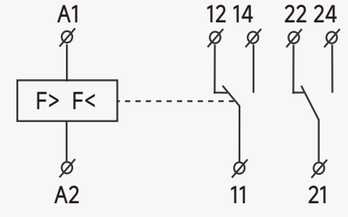


Wrong settings

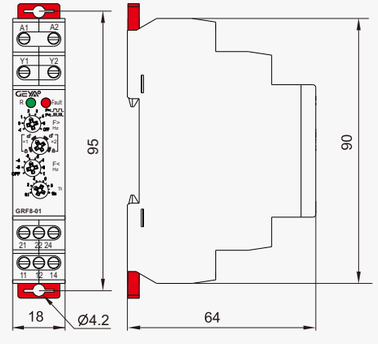


The set over threshold value must be larger than under threshold value.
Both over threshold and under threshold cannot be set to OFF at the sametime. Otherwise, all LEDs would flash and the output relay would be disconnected.

Wiring Diagram



Dimensions(mm)





Applications

- Isolated Relays are mainly used in fire safety applications that interface with HVAC system, elevator controls and access control doors. It can also be integrated with PLC systems.

Feature

- Provides effective 3 way isolation between supply, input switch & relay
- output.
- Provides isolation of dissimilar circuits.
- Enables control of multiple loads when only one relay output is available.
- DIN rail mounting.

Model and connotation

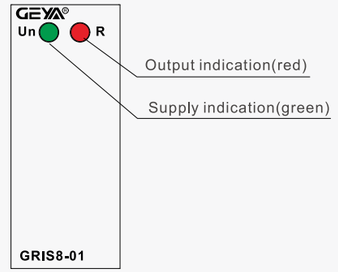
GRIS8 – 01 / □

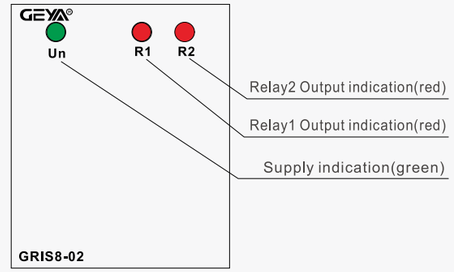
- □: Rated control supply voltage — A265: AC85V-265V
- 01: Number of contacts — 1:1 x SPDT; 2:2 x SPDT
- GRIS8: GRM8 Series

Technical parameters

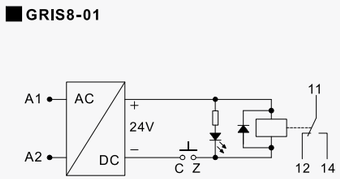
	GRIS8-01	GRIS8-02
Function	Interface/ Control Relay	
Supply terminals	A1-A2	
Voltage range	AC85-265V 45-65Hz	
Burden	2.5VA	3VA
Supply indication	Green LED	
Isolation voltage		
Supply I/P to I/P Switch	4kVAC	
Supply I/P to O/P Switch	4kVAC	
I/P Switch to Relay O/P	4kVAC	
Output	1 X SPDT	2 X SPDT
Current rating	10A/AC1	
Switching voltage	250VAC/24VDC	
Min.breaking capacity DC	500mW	
Output indication	Red LED	
Mechanical life	$1x10^7$	
Electrical life(AC1)	$1x10^5$	
Operating temperature	-20℃ to +55℃ (-4℉ to 131℉)	
Storage temperature	-35℃ to +75℃ (-22℉ to 158℉)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP20	
Operating position	any	
Overvoltage cathegory	III	
Pollution degree	2	
Max.cable size(mm^2)	1×2.5mm^2 or 2×1.5mm^2 0.8Nm	1×2.5mm^2 or 2×1.5mm^2 0.4Nm
Dimensions	90x 18x 64mm	90x 36x 64mm
Weight	62g	120g
Standards	GB/T14048.5 IEC60947-5-1	

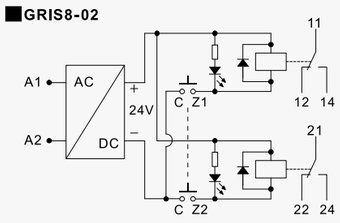
Panel Diagram



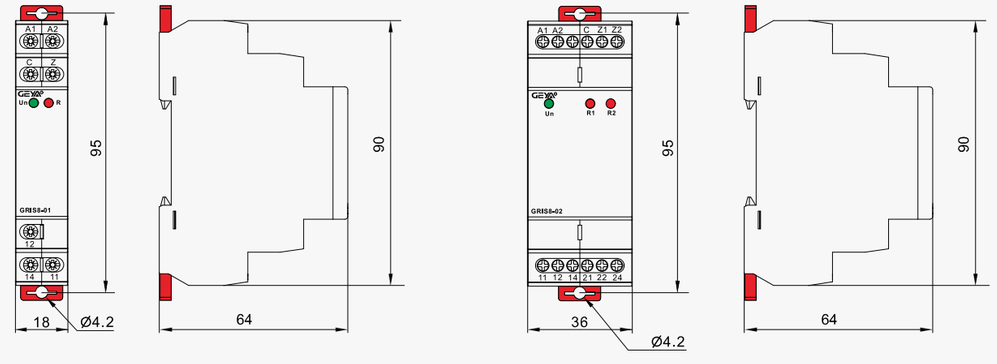


Connection Diagram





Dimensions(mm)





Applications

- Intermediate relay used for switching larger load output, strengthen or multiplying contacts of the existing device.

Feature

- Voltage range: AC/DC12V,24V,48V,110V,AC230V.
- relays GR8-316 enable connection to a 3-phase circuit.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

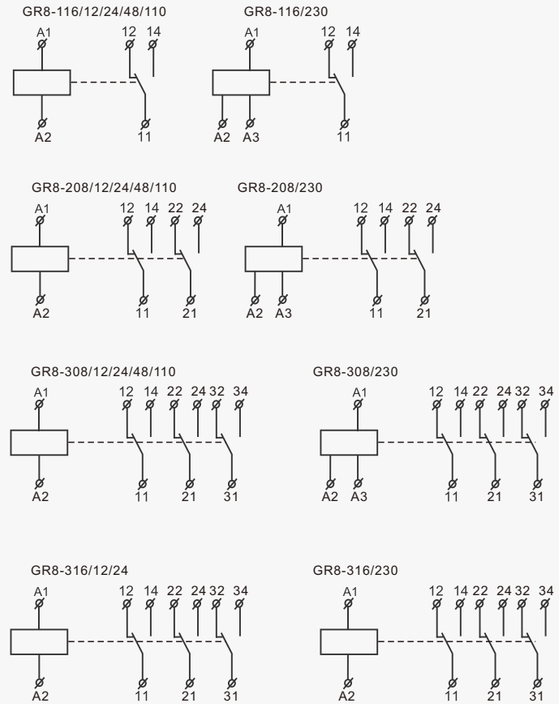
GR8 – □ / □

- □ (Rated control supply voltage)
  - 12:AC/DC 12V
  - 24:AC/DC 24V
  - 48:AC/DC 48V
  - 110:AC/DC 110V
  - 230:AC230V
- □ (Number of contacts)
  - 116:1×SPDT 16A
  - 208:2×SPDT 8A
  - 308:3×SPDT 8A
  - 316:3×SPDT 16A
- GR8 Series

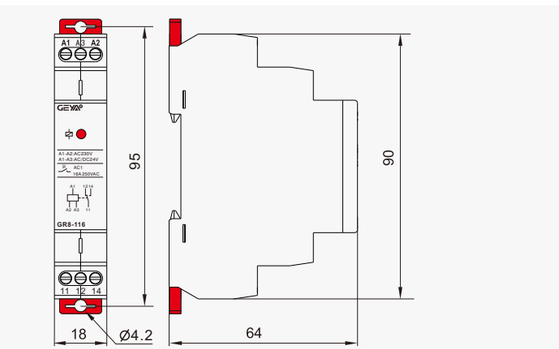
Technical parameters

	GR8-116	GR8-208	GR8-308	GR8-316
Supply terminals	A1-A2			A1-A2
Voltage range	AC/DC 12V、24V、48V、110V			AC/DC 12V、24V
Burden	AC.max 12VA/DC.max1.9W			
Supply terminals	A1-A2-A3			A1-A2
Voltage range	AC230V(A1-A2),AC/DC24V(A1-A3)			AC230V
Burden	AC.max 12VA/DC.max1.9W			AC. max 6VA
Supply voltage tolerance	-15%;+10%			
Max. chargeover time	40ms			
Number of contact	1xSPDT	2xSPDT	3xSPDT	3xSPDT
Current rating	16A/AC1	8A/AC1	8A/AC1	16A/AC1
Switching voltage	250VAC/24VDC			
Min. breaking capacity DC	500mW			
Output indication	Red LED			
Mechanical life	$1x10^7$			
Electrical life (AC1)	$1x10^5$			
Reset time	max.200ms			
Operating temperature	-20°C to +55°C（-4°F to 131°F）			
Storage temperature	-35°C to +75°C（-22°F to 158°F）			
Mounting/DIN rail	Din rail EN/IEC 60715			
Protection degree	IP40 for front panel/IP20 terminals			
Operating position	any			
Overvoltage category	III			
Pollution degree	2			
Max. cable size(mm^2)	solid wire max.1×2.5or 2×1.5/with sleeve max.1×2.5(AWG 12)			
Dimensions	90x 18x 64mm			
Weight	44g/54g	50g/60g	72g/82g	86g/96g

Wiring Diagram



Dimensions(mm)





Applications

- Overvoltage and undervoltage protection for household equipment.

Feature

- Supply voltage measurement and protection.
- Double bus wiring design stronger ability.
- Self reset after fault.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GPV8 – □ □

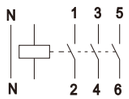
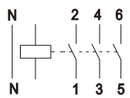
- □ Incoming line mode — U:upper incoming line; D:lower incoming line
- □ Rated operational current — 32A、40A、50A、63A（AC1）
- GPV8 Series

Note:4P products such as the need to phase protection function can be customized.

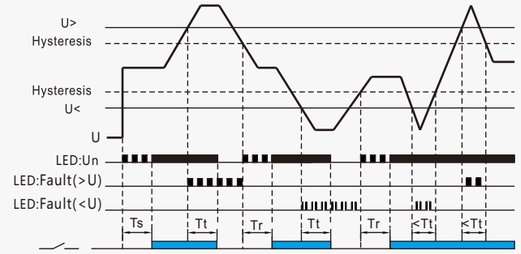
Technical parameters

	2P	4P
Rated supply voltage	AC220V	AC220V(L-N)
Rated supply frequency	50/60Hz	
Rated operational current	32A、40A、50A、63A（AC1）	
Burden	AC max.3VA	
Over voltage operation value	265V	265V(L-N)
Over voltage reset value	257V	257V(L-N)
Under voltage operation value	175V	175V(L-N)
Under voltage reset value	180V	180V(L-N)
Action delay time	1s	
Power-up delay	2s	
Reset time	30s	
Measurement error	≤1%	
Operating temperature	-20°C to +55°C（-4°F to 131°F）	
Storage temperature	-35°C to +75°C（-22°F to 158°F）	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Dimensions	82×36×68mm	82×72×68mm
weight	120g	250g

Wiring Diagram

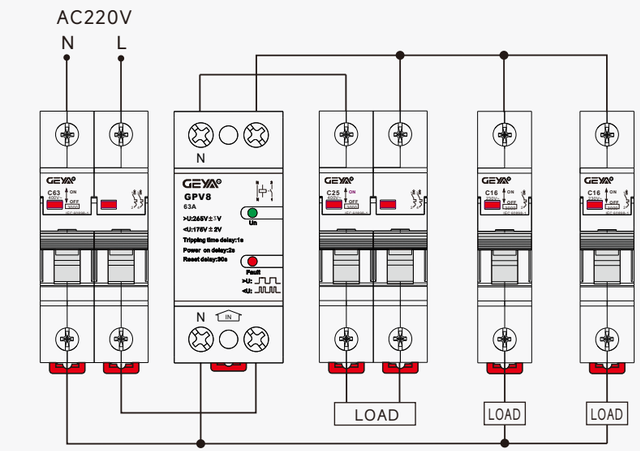
2P		4P	
GPV8-63U	GPV8-63D	GPV8-63U	GPV8-63D
			

Functions Diagram

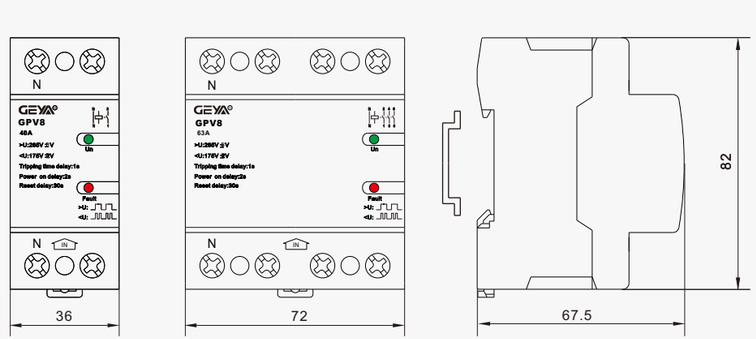


Ts：Power-up delay
Tt：Action delay time
Tr：Reset delay time

Example



Dimensions(mm)





Applications

- Overvoltage and undervoltage protection for household equipment.

Feature

- Supply voltage measurement and protection.
- Double bus wiring design stronger ability.
- Self reset after fault.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GPV8 — 2PN

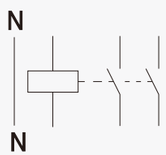
- 2PN: 2 line with neutral
- GPV8: GPV8 self-resetting over-voltage protection

Note:4P products such as the need to phase protection function can be customized.

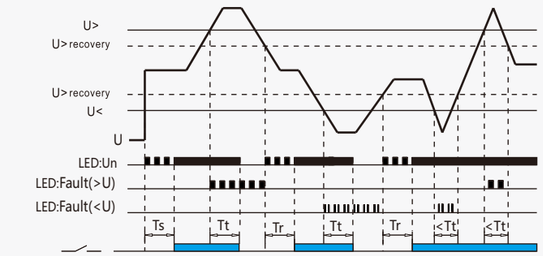
Technical parameters

	2P+N
Rated supply voltage	AC120V(L-N)/AC220V(L-L)
Rated supply frequency	50/60Hz
Rated operational current	50A、63A（AC1）
Burden	AC max.3VA
Over voltage operation value	AC145V(L-N)/AC250V(L-L)
Over voltage reset value	AC140V(L-N)/AC245V(L-L)
Under voltage operation value	AC85V(L-N)/AC165V(L-L)
Under voltage reset value	AC90V(L-N)/AC170V(L-L)
Tripping time delay	1s
Power-up delay	2s
Reset time	30s
Measurement error	≤1%
Operating temperature	-20°C to +55°C（-4°F to 131°F）
Storage temperature	-35°C to +75°C（-22°F to 158°F）
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Tightening torque	3Nm
Dimensions	82 x 72 x 68 mm
weight	250g

Wiring Diagram

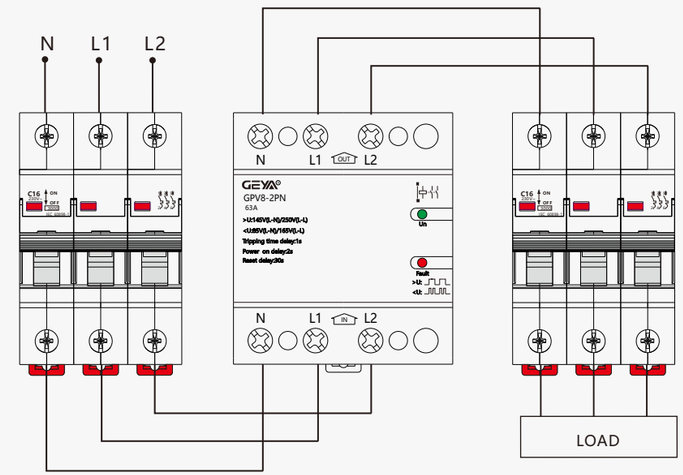


Functions Diagram

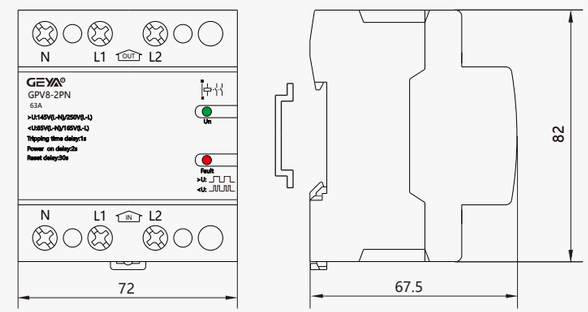


Ts: Power-up delay
Tt: Tripping time delay
Tr: Reset time delay

Example



Dimensions(mm)





Applications

- Overvoltage and undervoltage protection for household equipment.

Feature

- Supply voltage measurement and protection.
- Double bus wiring design stronger ability.
- Self reset after fault.
- Relay status is indicated by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GPS8 – □ □

- Incoming line mode: U:upper incoming line; D:lower incoming line
- Design number: 01:Over and under voltage protection; 02:Over voltage, under voltage and over current protection
- GPS8 Series

Technical parameters

	GPS8-01	GPS8-02
Function	Over and under voltage	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L-N)	
Rated supply frequency	45~65HZ	
Operation voltage range	80V~400V(L-N)	
Rated operational current	32A,40A,50A,63A,80A（AC1）	
Burden	AC max.3VA	
Over voltage operation value	OFF,230V~300V	
Under voltage operation value	140V~210V,OFF	
Over/under voltage action delay	0.1s~10s	
Over current operation value	-	1~32A,40A,50A,63A,80A
Over current action delay	-	2s~600s
Power-up delay	2s~600s	
Reset time	2s~900s	
Measurement error	≤1%	
Electrical life(AC1)	1×10^4	
Mechanical life	1×10^6	
Operating temperature	-20°C ~ +60°C	
Storage temperature	-35°C ~ +75°C	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Dimensions	82×36×68mm	
weight	135g	

Wiring Diagram

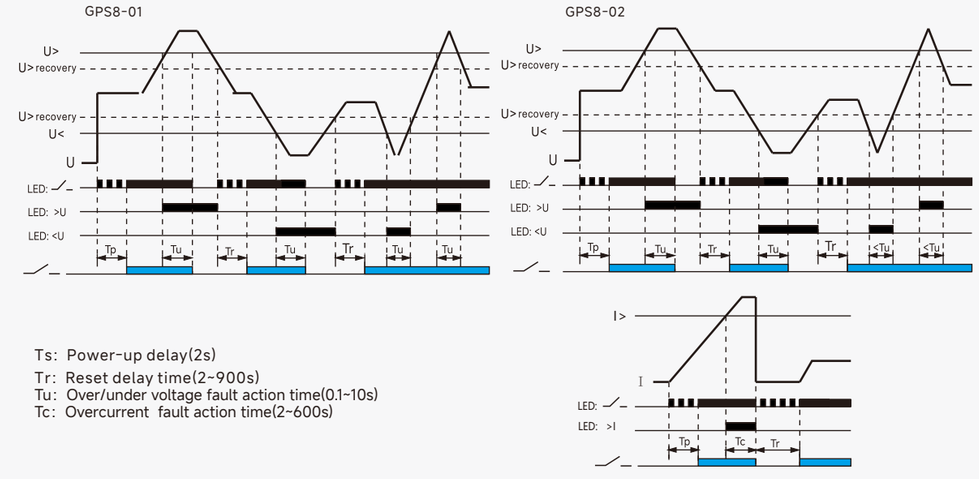
GPS8-□U



GPS8-□D

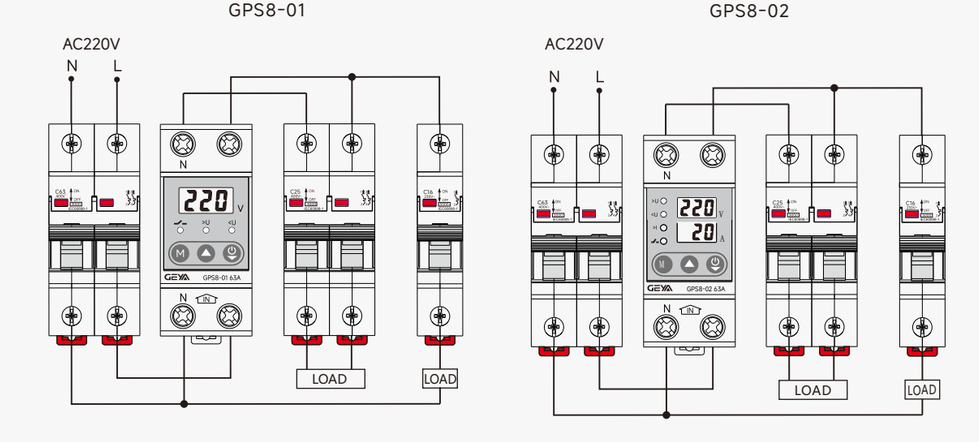


Functions Diagram

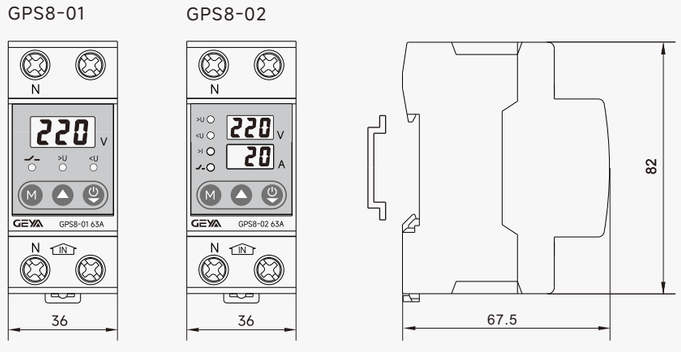


Ts: Power-up delay(2s)
Tr: Reset delay time(2~900s)
Tu: Over/under voltage fault action time(0.1~10s)
Tc: Overcurrent fault action time(2~600s)

Example



Dimensions(mm)





Applications

- Overvoltage ,undervoltage and overcurrent protection for household equipment.

Feature

- Voltage / current(True RMS)monitoring and protection.
- Use true RMS measurement.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Digital display voltage, current value, fault status can be displayed by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GPS8 – 03 □

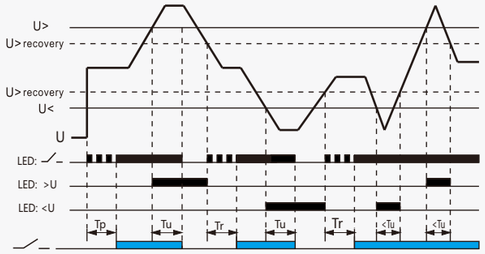
- □ — Incoming line mode — U:upper incoming line / D:lower incoming line
- 03 — Design number
- GPS8 — GPS8 Series

Technical parameters

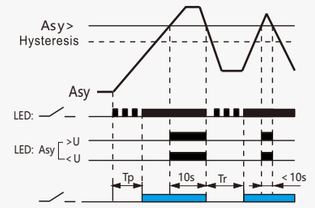
	GPS8-03
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L1,L2,L3-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L1,L2,L3-N)
Rated operational current	63A(AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1A~63A
Over current action delay	2s~600s
Voltage unbalance value	20V~99V
Voltage unbalance action time	10s
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10^4
Mechanical life	1×10^6
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Dimensions	82×72×68mm
weight	376g

Functions Diagram

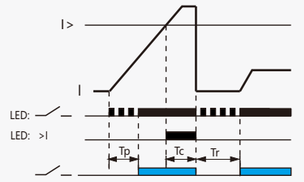
Overvoltage or undervoltage fault



Voltage unbalance fault

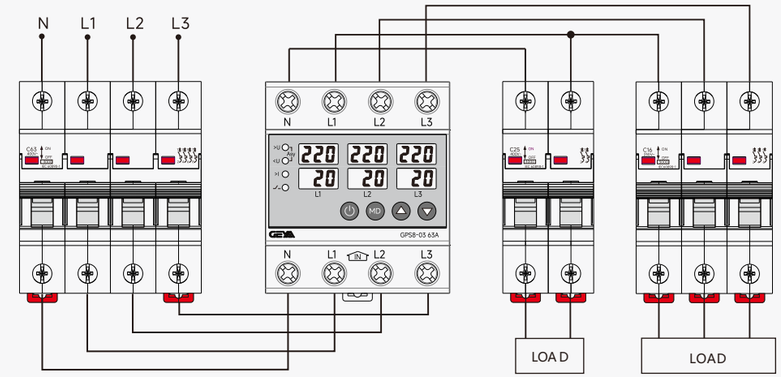


Overcurrent fault



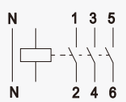
Tp: Power-up delay(2~600s)
Tr: Reset delay time(2~900s)
Tu: Over/under voltage fault action time(0.1~10s)
Tc: Overcurrent fault action time(2~600s)

Example

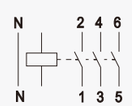


Wiring Diagram

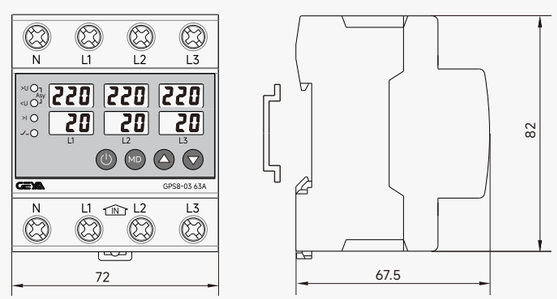
GPS8-03U



GPS8-03D



Dimensions(mm)





Applications

- Overvoltage and undervoltage protection for household equipment.

Feature

- Voltage / current monitoring and protection.
- Special metering chips are used to detect voltage, current, electricity, and power.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Digital display voltage, current value, fault status can be displayed by LED.
- DIN rail mounting.

Model and connotation

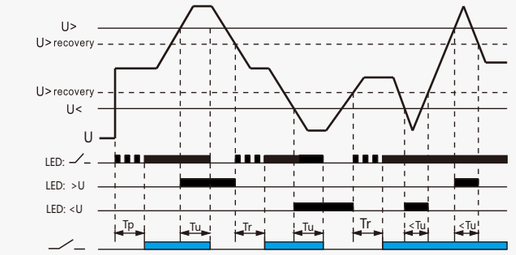
GPS8 – □ □

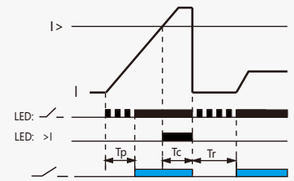
- □ Incoming line mode — U:upper incoming line; D:lower incoming line
- □ Design number
- GPS8 Series

Technical parameters

	GPS8-05	GPS8-06
Function	Over voltage, under voltage and over current	
Rated supply voltage	AC220V(L-N)	
Rated supply frequency	45~65HZ	
Operation voltage range	80V~400V(L-N)	
Rated operational current	32A,40A,50A,63A,80A (AC1)	
Burden	AC max.3VA	
Over voltage operation value	OFF,230V~300V	
Under voltage operation value	140V~210V,OFF	
Over/under voltage action delay	0.1s~10s	
Over current operation value	1~32A,40A,50A,63A,80A	
WIFI connectivity	-	802.11 b/g/n 2.4GHz
Over current action delay	2s~600s	
Power-up delay	2s~600s	
Reset time	2s~900s	
Measurement error	≤1%	
Electrical life(AC1)	1×10^4	
Mechanical life	1×10^6	
Operating temperature	-20°C ~ +60°C	
Storage temperature	-35°C ~ +75°C	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Dimensions	82×36×68mm	
weight	135g	140g

Functions Diagram

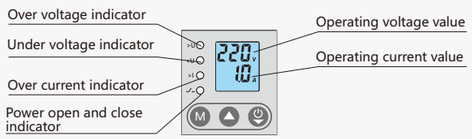




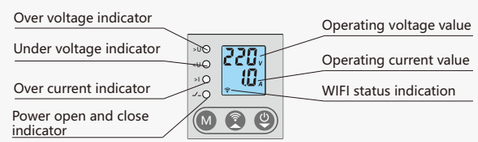
Tp: Power-up delay(2~600s) Tu: Over/under voltage fault action time(0.1~10s)
Tr: Reset delay time(2~900s) Tc: Overcurrent fault action time(2~600s)

Panel Diagram

GPS8-05



GPS8-06



M	Press and hold the setting key for 3 seconds to enter the setting. After modifying the setting, press and hold for 3 seconds to save the setting.
▲	Used to increase the value when setting parameters.
⏻	1.Used to reduce the value when setting parameters.
	2.After exiting the setting, it can be used to manually turn on or off the load.
	3.If the automatic fault reset function is turned off, this button can be used for manual reset when the fault occurs.

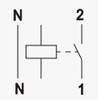
M	Press and hold the setting key for 3 seconds to enter the setting. After modifying the setting, press and hold for 3 seconds to save the setting.
▲	1.Used to increase the value when setting parameters.
	2.Press and hold for 5 seconds to reconfigure WIFI.
⏻	1.Used to reduce the value when setting parameters.
	2.After exiting the setting, it can be used to manually turn on or off the load.
	3.If the automatic fault reset function is turned off, this button can be used for manual reset when the fault occurs.

Wiring Diagram

GPS8-□U

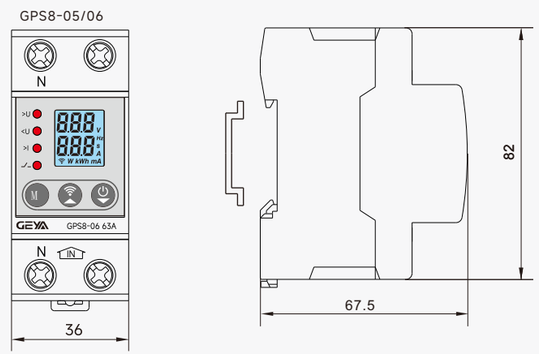


GPS8-□D



Dimensions(mm)

GPS8-05/06





Applications

- Overvoltage, undervoltage, overcurrent and leakage protection for household equipment, while displaying frequency, power factor, power, and electricity consumption.

Feature

- Overvoltage, undervoltage, overcurrent, and leakage protection.
- Special metering chips are used to detect voltage, current, electricity consumption and power.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Large color screen display.
- DIN rail mounting.

Model and connotation

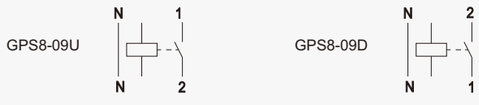
GPS8 – 09 □

- □ Incoming line mode — U:upper incoming line / D:lower incoming line
- 09 Design number
- GPS8 GPS8 Series

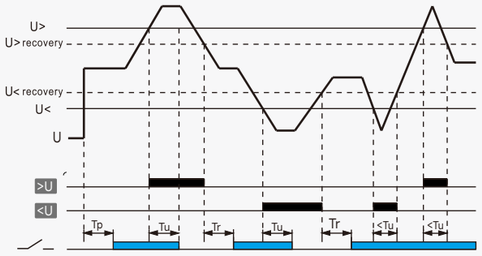
Technical parameters

	GPS8-09
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L-N)
Rated operational current	32A,40A,50A,63A,80A（AC1）
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1~32A,40A,50A,63A,80A
Over current action delay	2s~600s
Leakage current value	OFF,10mA~400mA
Leakage reclosing count	OFF,1~20,ON
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10^4
Mechanical life	1×10^6
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Dimensions	82×54×68mm
weight	205g

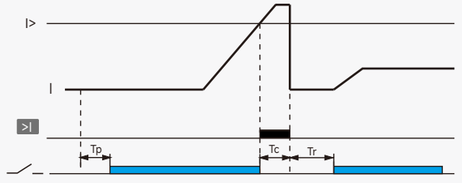
Wiring Diagram



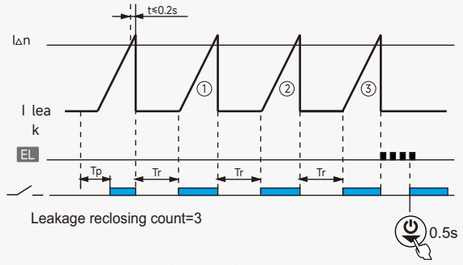
Functions Diagram



When an overvoltage/undervoltage fault occurs, the protector will turn off, When the voltage returns to normal, the protector will return on after the reset timeand the overvoltage/undervoltage value can be set.



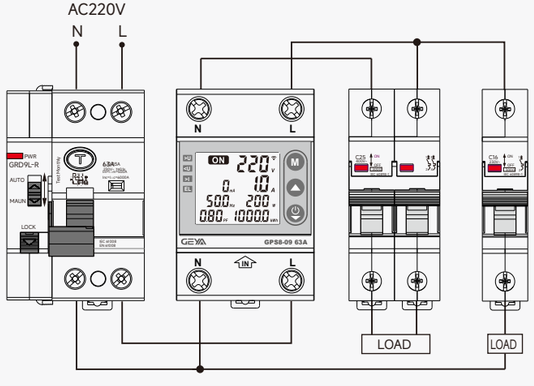
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. You can reset it by pressing the ON/OFF button.



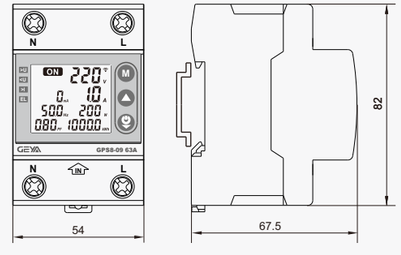
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. You can reset it by pressing the ON/OFF button. The reclosing count of the protector can be set to ON to permanently activate the reclosing function.

Tp: Power-up delay(2~600s)
Tr: Reset delay time(2~900s)
Tu: Over/under voltage fault action time(0.1~10s)
Tc: Overcurrent fault action time(2~600s)

Wiring Diagram



Dimensions(mm)





Applications

- Overvoltage, undervoltage, overcurrent and leakage protection for household equipment, while displaying frequency, power factor, power, and electricity consumption.

Feature

- Overvoltage, undervoltage, overcurrent, and leakage protection.
- Special metering chips are used to detect voltage, current, electricity consumption and power.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Large color screen display.
- DIN rail mounting.

Model and connotation

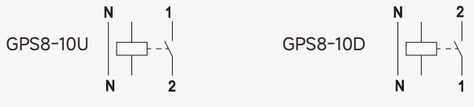
GPS8 – 10 □

- □ Incoming line mode — U:upper incoming line; D:lower incoming line
- 10 Design number
- GPS8 Series

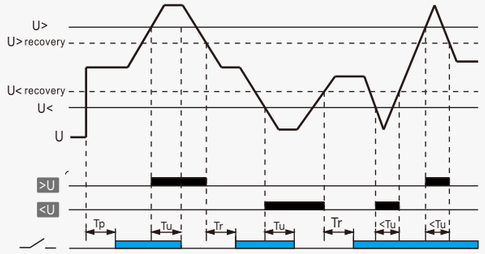
Technical parameters

	GPS8-10
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L-N)
Rated operational current	32A,40A,50A,63A,80A（AC1）
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1~32A,40A,50A,63A,80A
Over current action delay	2s~600s,802.11 b/g/n 2.4GHz
Leakage current value	OFF,10mA~400mA
Leakage reclosing count	OFF,1~20,ON
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10^4
Mechanical life	1×10^6
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Dimensions	82×54×68mm
weight	205g

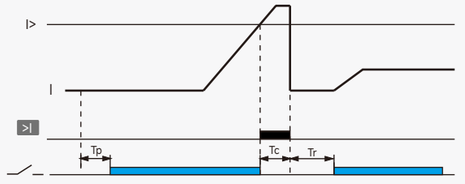
Wiring Diagram



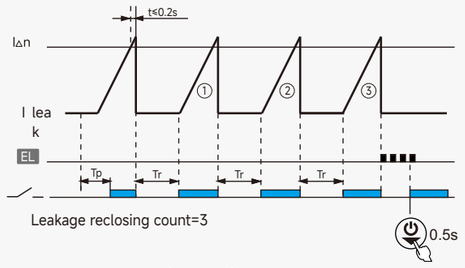
Functions Diagram



When an overvoltage/undervoltage fault occurs, the protector will turn off, When the voltage returns to normal, the protector will return on after the reset timeand the overvoltage/undervoltage value can be set.



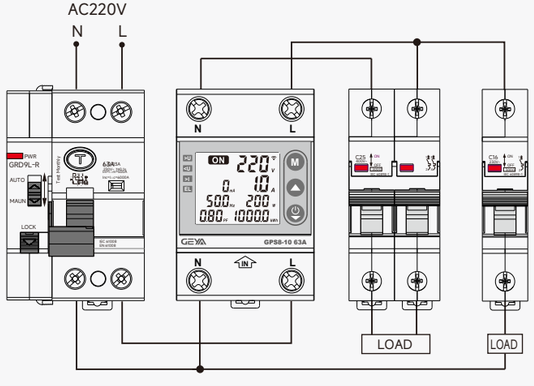
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. You can reset it by pressing the ON/OFF button.



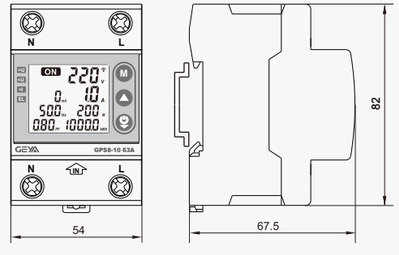
When the leakage current of the circuit exceeds the set leakage current, the protector will turn off. You can turn off the leakage protection function by setting it. The protector will reset according to the set reclosing count. If the count is exceeded, the protector will not reclose and will be indicated by the leakage current indicator light. You can reset it by pressing the ON/OFF button. The reclosing count of the protector can be set to ON to permanently activate the reclosing function.

Tp：Power-up delay(2~600s)
Tr：Reset delay time(2~900s)
Tu：Over/under voltage fault action time(0.1~10s)
Tc：Overcurrent fault action time(2~600s)

Wiring Diagram



Dimensions(mm)





Applications

- Overvoltage ,undervoltage and overcurrent protection for household equipment.

Feature

- Voltage / current (True RMS)monitoring and protection.
- Use true RMS measurement.
- L and N both have disconnected contacts.
- Double bus wiring design stronger ability.
- Over / under voltage value and over-current value can be set.
- Self reset after fault.
- Digital display voltage, current value, fault status can be displayed by LED.
- 1-MODULE,DIN rail mounting.

Model and connotation

GPS8 – 13 □

- □ — Incoming line mode: U:upper incoming line; D:lower incoming line
- 13 — Design number
- GPS8 — GPS8 Series

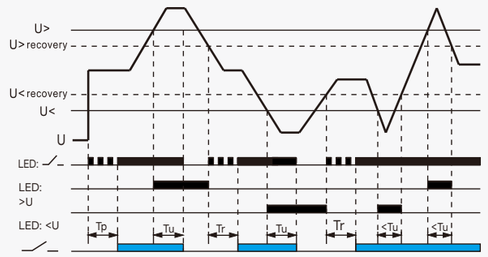
Technical parameters

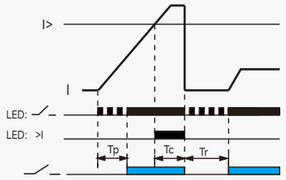
	GPS8-13
Function	Over voltage, under voltage and over current
Rated supply voltage	AC220V(L-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L-N)
Rated operational current	63A,80A（AC1）
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1~63A,80A
Over current action delay	2s~600s
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10^4
Mechanical life	1×10^6
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Dimensions	82×54×68mm
weight	135g

Wiring Diagram



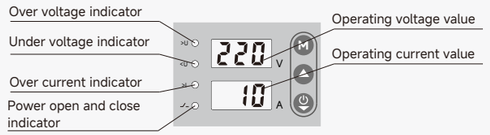
Functions Diagram





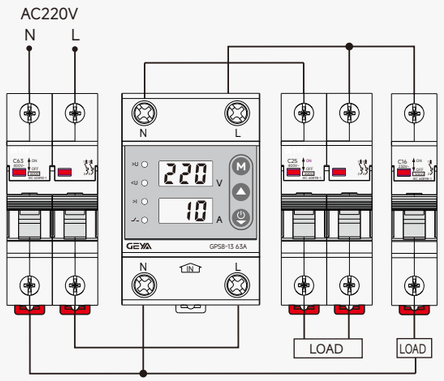
Tp：Power-up delay(2~600s)
Tr：Reset delay time(2~900s)
Tu：Over/under voltage fault action time(0.1~10s)
Tc：Overcurrent fault action time(2~600s)

Panel Diagram



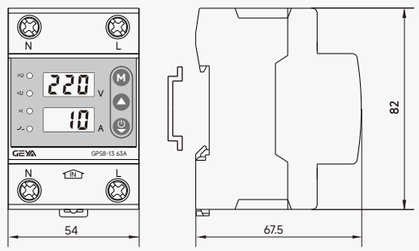
M	Press and hold the setting key for 3 seconds to enter the setting. After modifying the setting, press and hold for 3 seconds to save the setting.
▲	Used to increase the value when setting parameters.
⏻	1.Used to reduce the value when setting parameters.
	2.After exiting the setting, it can be used to manually turn on or off the load.
	3.If the automatic fault reset function is turned off, this button can be used for manual reset when the fault occurs.

Wiring Diagram



NOTE: This product does not have isolation function. Please disconnect the superior MCB during maintenance!

Dimensions(mm)





Applications

- Equipped with overvoltage/undervoltage protection functions, it automatically selects the phase with normal voltage to supply power

Feature

- Voltage(True RMS) monitoring and protection.
- Over / under voltage value can be set.
- Digital display voltage, fault status can be displayed by LED.
- DIN rail mounting.

Model and connotation

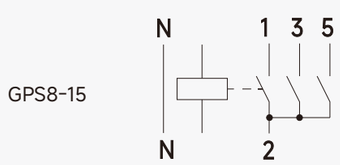
GPS8 – 15

- 15 — Design number
- GPS8 — GPS8 Series

Technical parameters

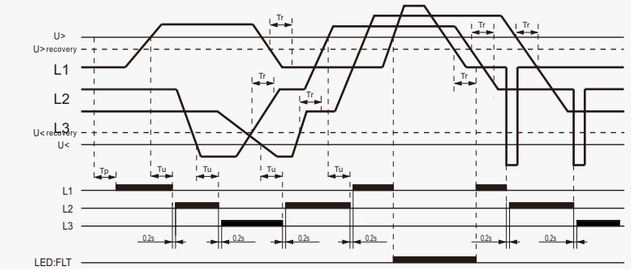
	GPS8-15
Function	Phase selector swtich
Rated supply voltage	AC220V(L1,L2,L3-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L1,L2,L3-N)
Rated operational current	63A,80A（AC1）
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10^4
Mechanical life	1×10^6
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Dimensions	82×72×68mm
weight	310g

Wiring Diagram

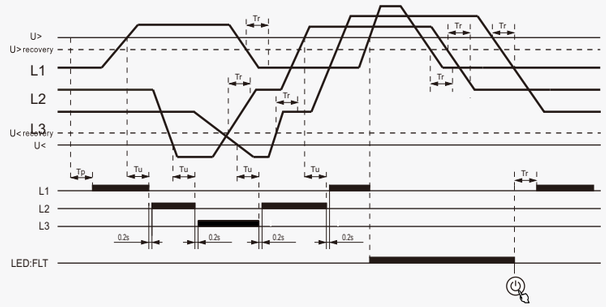


Functions Diagram

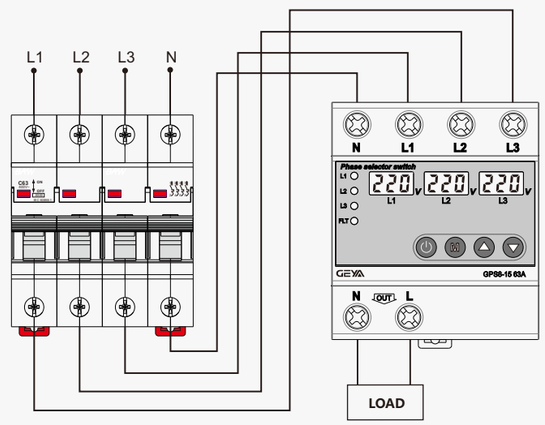
The input of this product is L1, L2, L3, N, and the output is L, N. The product will automatically select the phase output with normal voltage. When one of the phases experiences a voltage fault, it will automatically switch to the phase with normal voltage. If all three phases of the voltage fail, the fault indicator light will light up.
When the fault reset function is turned on, the functional diagram is as follows:



When the fault reset function is turned off, the functional diagram is as follows:

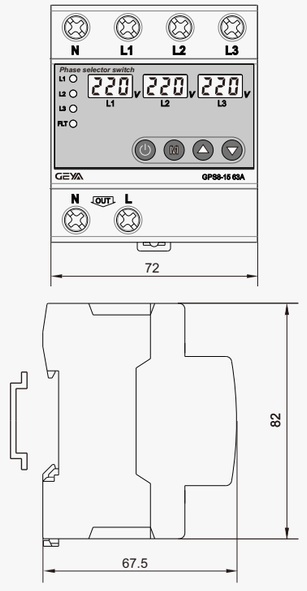


Example



NOTE:
This product does not have isolation function.
Please disconnect the superior MCB during maintenance!!!

Dimensions(mm)





Applications

- Equipped with overvoltage/undervoltage and overcurrent protection functions, it automatically selects the phase with normal voltage to supply power to the load.

Feature

- Voltage / current(True RMS)monitoring and protection.
- Over / under voltage value and over-current value can be set.
- Digital display voltage, current value, fault status can be displayed by LED.
- DIN rail mounting.

Model and connotation

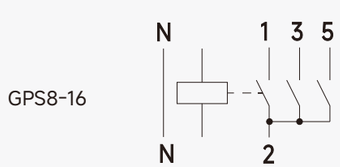
GPS8 – 16

- 16 — Design number
- GPS8 — GPS8 Series

Technical parameters

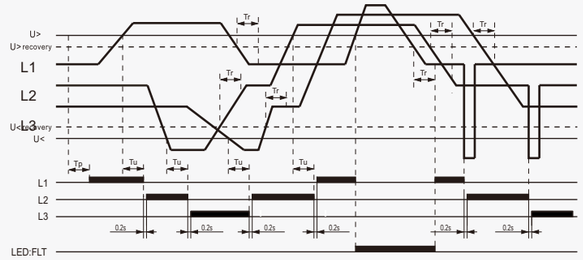
	GPS8-16
Function	Phase selector swtich
Rated supply voltage	AC220V(L1,L2,L3-N)
Rated supply frequency	45~65HZ
Operation voltage range	80V~400V(L1,L2,L3-N)
Rated operational current	63A,80A（AC1)
Burden	AC max.3VA
Over voltage operation value	OFF,230V~300V
Under voltage operation value	140V~210V,OFF
Over/under voltage action delay	0.1s~10s
Over current operation value	1A~63A
Over current action delay	2s~600s
Power-up delay	2s~600s
Reset time	2s~900s
Measurement error	≤1%
Electrical life(AC1)	1×10^4
Mechanical life	1×10^6
Operating temperature	-20°C ~ +60°C
Storage temperature	-35°C ~ +75°C
Mounting/DIN rail	Din rail EN/IEC 60715
Protection degree	IP40 for front panel/IP20 terminals
Operating position	any
Overvoltage category	III
Pollution degree	2
Dimensions	82×72×68mm
weight	320g

Wiring Diagram

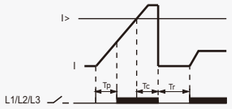


Functions Diagram

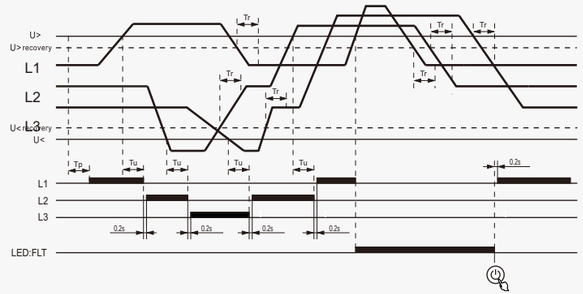
The input of this product is L1, L2, L3, N, and the output is L, N. The product will automatically select the phase output with normal voltage. When one of the phases experiences a voltage fault, it will automatically switch to the phase with normal voltage. If all three phases of the voltage fail, the fault indicator light will light up.
When the fault reset function is turned on, the functional diagram is as follows:



Overcurrent fault

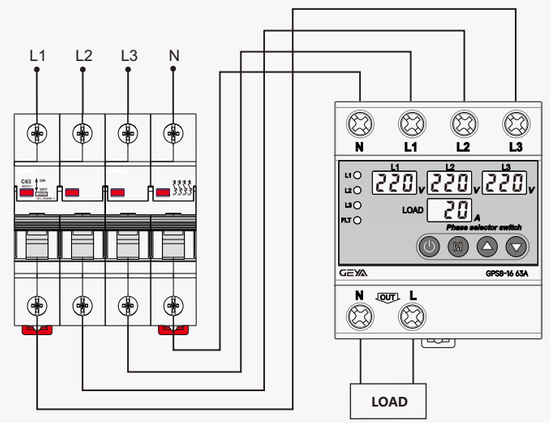


When the fault reset function is turned off, the functional diagram is as follows:



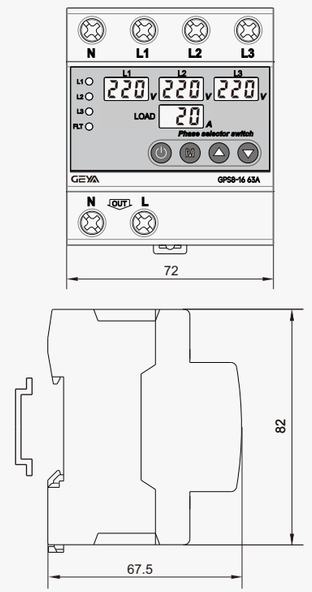
Tp：Power-up delay(2~600s)
Tr：Reset delay time(2~900s)
Tu：Over/under voltage fault action time(0.1~10s)
Tc：Overcurrent fault action time(2~600s)

Example



NOTE:
This product does not have isolation function.
Please disconnect the superior MCB during maintenance!!!

Dimensions(mm)



GTS8-W WiFi intelligent switch

Portector



Applications

- It turns on and off the load periodically and regularly, and usually controls household equipment such as lights and appliances.

Feature

- Support access to Tuya's App Tuya smart.
- The on and off time of the load can be conveniently set through the App.
- On and off can be controlled manually.
- The cycle on / off can be set during the on time.
- DIN rail mounting.

Model and connotation

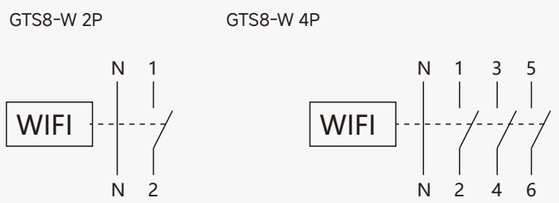
GTS8 – W

- W: WiFi intelligent switch
- GTS8: GTS8 Series

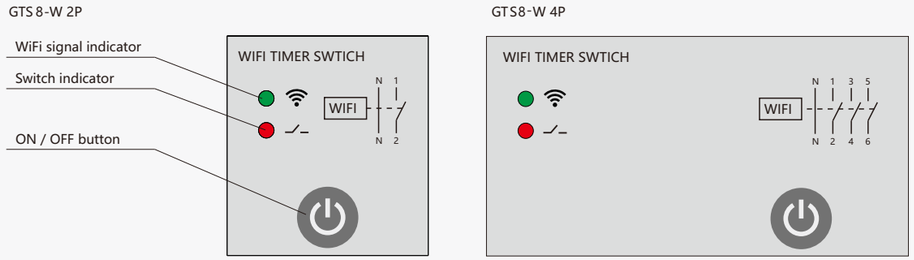
Technical parameters

	2P	4P
Function	WiFi intelligent switch	
Rated supply voltage	AC220V	AC220V(L-N)
Rated supply frequency	45~65Hz	45~65Hz
Rated operational current	32A,40A,50A,63A,80A（AC1）	63A,80A（AC1）
Burden	AC max.3VA	
WIFI connectivity	802.11 b/g/n 2.4GHz	
Electrical life(AC1)	1×10^4	
Mechanical life	1×10^6	
Operating temperature	-20°C ~ +60°C	
Storage temperature	-35°C ~ +75°C	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	IP40 for front panel/IP20 terminals	
Operating position	any	
Overvoltage category	III	
Pollution degree	2	
Dimensions	82×36×68mm	82×72×68mm
weight	130g	370g

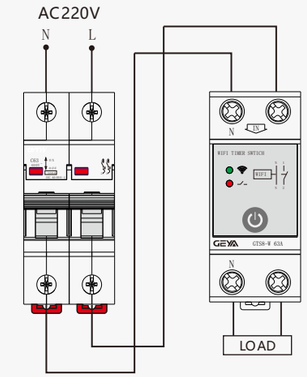
Wiring Diagram



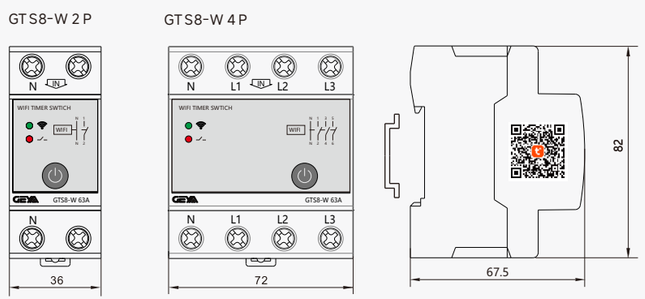
Panel Diagram



Wiring diagram



Dimensions(mm)



PLS-01 Photosensitive sensor



Applications

- It can be used as the supporting sensor of twilight switch.

Feature

- Small size design, can be installed on the panel.
- It has two models: photoresist and photodiode.
- The model with built-in photodiode has a wider brightness detection range.
- It needs to be matched with the optical switch.

Model and connotation

PLS – 01 □ – 0.2m

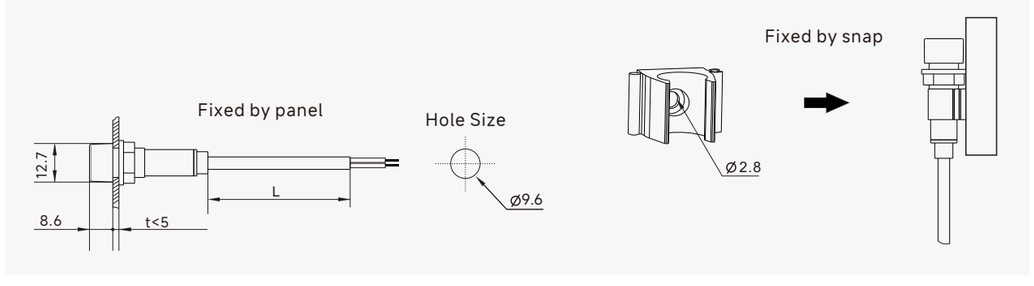
- 0.2m: Cable length
- □: Built in sensor type (R: photoresist; D: photodiode)
- 01: Design number
- PLS: Photosensitive sensor

Technical parameters

	PLS-01R
Built in sensor type	Photoresist
Maximum voltage	150VDC
Spectral peak	540nm
Bright resistance(10 Lux)	100kΩ-200kΩ
Dark resistance	15mΩ
100λ10	0.95
Response time	Rise:20ms Descent:30ms
Maximum power consumption	100mW
Protection degree	IP55 for front panel/IP50 terminals
Operating temperature	-20°C to +60°C（-4°F to 140°F）
Storage temperature	-35°C to +75°C（-31°F to 167°F）

	PLS-01D
Built in sensor type	Photoresist
Spectral application range	320nm-1100nm
Operating voltage range	2.2-5VDC
Light current(10 Lux)	≥4uA(VDD=5V,R=1kΩ)
Dark current(0 Lux)	-
Maximum power consumption	100mW
Protection degree	IP55 for front panel/IP50 terminals
Operating temperature	-20°C to +60°C（-4°F to 140°F）
Storage temperature	-35°C to +75°C（-31°F to 167°F）

Dimensions(mm)



PLS-02



Applications

- It can be used as the supporting sensor of twilight switch.

Feature

- Small size design, can be installed on the panel.
- It has two models: photoresist and photodiode.
- The model with built-in photodiode has a wider brightness detection range.
- It needs to be matched with the optical switch.

Model and connotation

PLS – 02 □ – 0.2m

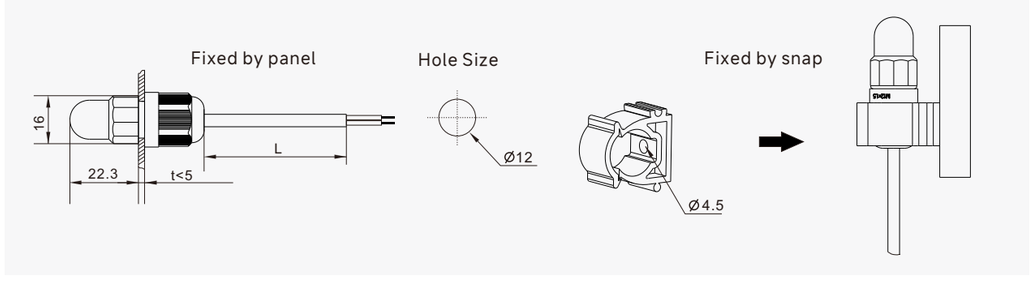
- 0.2m: Cable length
- □: Built in sensor type (R: photoresist; D: photodiode)
- 02: Design number
- PLS: Photosensitive sensor

Technical parameters

	PLS-02R
Built in sensor type	Photoresist
Maximum voltage	150VDC
Spectral peak	540nm
Bright resistance(10 Lux)	100kΩ-200kΩ
Dark resistance	15mΩ
100λ10	0.95
Response time	Rise:20ms Descent:30ms
Maximum power consumption	100mW
Protection degree	IP55
Operating temperature	-20°C to +60°C（-4°F to 140°F）
Storage temperature	-35°C to +75°C（-31°F to 167°F）

	PLS-02D
Built in sensor type	Photoresist
Spectral application range	320nm-1100nm
Operating voltage range	2.2-5VDC
Light current(10 Lux)	≥4uA(VDD=5V,R=1kΩ)
Dark current(0 Lux)	-
Maximum power consumption	100mW
Protection degree	IP55
Operating temperature	-20°C to +60°C（-4°F to 140°F）
Storage temperature	-35°C to +75°C（-31°F to 167°F）

Dimensions(mm)



PLT-01 Liquid level probe



Applications

- Probe for matching liquid level relay.

Feature

- The metal part of the probe is made of 304 stainless steel.
- Cables of 3 different colors are used to distinguish different electrodes.
- The manufacturing material has good corrosion resistance.

Model and connotation

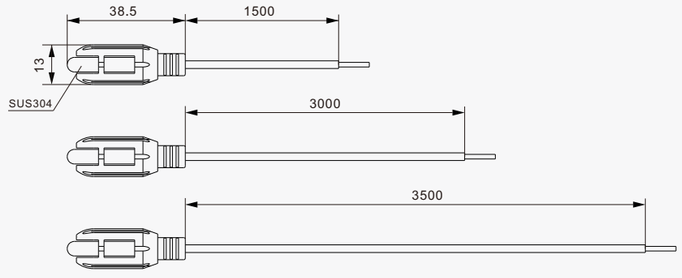
PLS — 01 1.5m

- 1.5m: Cable length 1.5m:blue-1.5m\red-3m\white-3.5m
- 01: Design number
- PLS: Liquid level probe

Technical parameters

	PLS-01
Probe material	304 stainless steel
Cable material	Copper core PVC(20AWG)
Plastic material	PA66
Operating temperature	0°C to +60°C (32°F to 140°F)
Storage temperature	-35°C to +75°C (-31°F to 167°F)

Dimensions(mm)



Temperature sensor PTS-N



Applications

- It is used to detect temperature and can be used together with temperature relay.

Feature

- Probe built-in high-precision NTC thermistor.
- The probe adopts waterproof design and can be used to detect water temperature.
- The cable adopts high temperature and corrosion-resistant silica gel..

Model and connotation

PTS — N 0.5m

- 0.5m: Cable length 0.5m; 1m; 2m; 3m; 5m;
- N: Design number
- PTS: Temperature sensor

Technical parameters

	PTS-N
Probe material	304 stainless steel
Cable material	Copper core silica gel
Sensor type	NTC thermistor
Waterproof grade	IP68
Operating temperature	-40°C to +200°C (-40°F to 392°F)
Storage temperature	-40°C to +75°C (-40°F to 167°F)

Dimensions(mm)

